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Department of
Agriculture



Natural
Resources
Conservation
Service

In cooperation with
Illinois Agricultural
Experiment Station

Soil Survey of Madison County, Illinois



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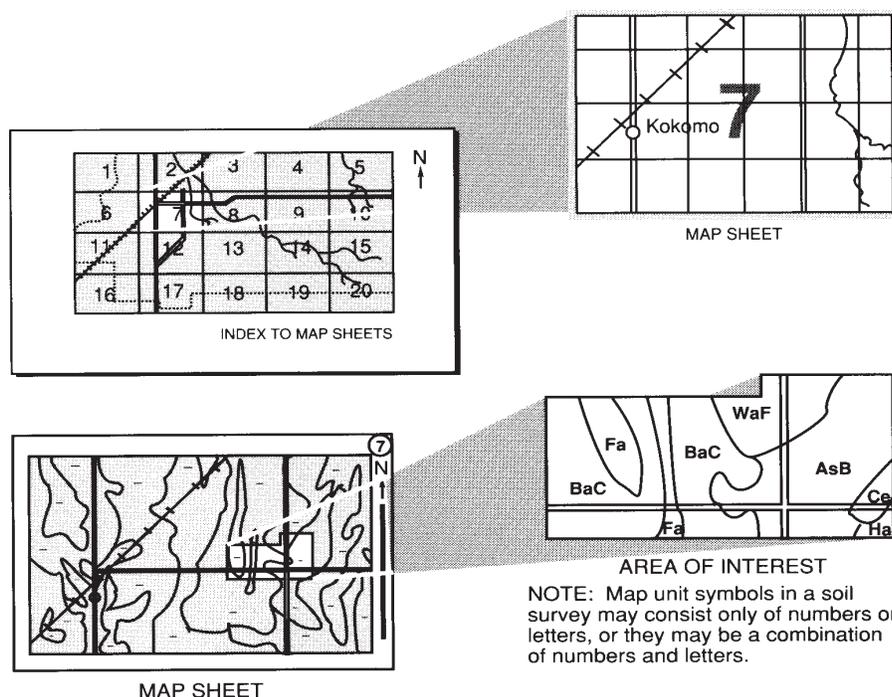
How To Use This Soil Survey

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 **Numerical Index to Map Units**, which lists the map units by symbol and name and shows the page where each map unit is described. The map unit symbols and names also appear as bookmarks, which link directly to the appropriate page in the publication.

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



This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1999. Soil names and descriptions were approved in 1999. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1999. 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 Madison County Soil and Water Conservation District. Funding was provided by the Madison County Board and the Illinois Department of Agriculture.

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: Contour farming in an area of Downsouth, Oconee, and Herrick soils.

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

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7081A—Littleton silt loam, 0 to 2 percent slopes, rarely flooded	89	8180A—Dupo silt loam, 0 to 2 percent slopes, occasionally flooded	64
7122B—Colp silt loam, 2 to 5 percent slopes, rarely flooded	50	8183A—Shaffton clay loam, 0 to 2 percent slopes, occasionally flooded	125
7122C—Colp silty clay loam, 5 to 10 percent slopes, severely eroded, rarely flooded	50	8284A—Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded	130
7150A—Onarga sandy loam, 0 to 2 percent slopes, rarely flooded	109	8302A—Ambraw silty clay loam, 0 to 2 percent slopes, occasionally flooded	27
7151A—Ridgeville fine sandy loam, 0 to 2 percent slopes, rarely flooded	118	8304B—Landes very fine sandy loam, 2 to 5 percent slopes, occasionally flooded	86
7338A—Hurst silty clay loam, 0 to 2 percent slopes, rarely flooded	85	8331A—Haymond silt loam, 0 to 2 percent slopes, occasionally flooded	77
7430A—Raddle silt loam, 0 to 2 percent slopes, rarely flooded	117	8333A—Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded	133
7432A—Geff silt loam, 0 to 2 percent slopes, rarely flooded	73	8334A—Birds silt loam, 0 to 2 percent slopes, occasionally flooded	39
7434B—Ridgway silt loam, 2 to 5 percent slopes, rarely flooded	120	8415A—Orion silt loam, 0 to 2 percent slopes, occasionally flooded	110
7445A—Newhaven loam, 0 to 2 percent slopes, rarely flooded	103	8591A—Fults silty clay, 0 to 2 percent slopes, occasionally flooded	71
7741B—Oakville fine sand, 2 to 5 percent slopes, rarely flooded	104	8592A—Nameoki silty clay, 0 to 2 percent slopes, occasionally flooded	99
7741C—Oakville fine sand, 5 to 10 percent slopes, rarely flooded	104	8674A—Dozaville silt loam, 0 to 2 percent slopes, occasionally flooded	61
8038B—Rocher loam, 2 to 5 percent slopes, occasionally flooded	121	8831A—Fluvaquents, clayey, 0 to 2 percent slopes, occasionally flooded	68

Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations 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 shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. 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 Madison County, Illinois

By Randall A. Leeper, Natural Resources Conservation Service

Fieldwork by Gerald V. Berning, John C. Doll, Tyrone M. Goddard, Randall A. Leeper, Irene A. Watterson, and Paul W. Youngstrum, Natural Resources Conservation Service, and Greg Cooper and David B. Rahe, Madison County

Map compilation by Dana R. Grantham, Natural Resources Conservation Service

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

MADISON COUNTY is in southwestern Illinois (fig. 1). It has an area of 473,740 acres, or about 740 square miles. It is bordered on the west by the Mississippi River; on the north by Jersey, Macoupin, and Montgomery Counties; on the west by Bond County; and on the south by Clinton and St. Clair Counties. In 1990, the population of the county was 249,238 (U.S. Department of Commerce, 1990). Edwardsville is the county seat. Other major cities are Alton, Collinsville, and Granite City.

This soil survey updates the survey of Madison County, Illinois, published in 1986 (Goddard and Sabata, 1986). It provides additional information and has larger maps, which show the soils in greater detail.

General Nature of the Survey Area

This section provides general information about Madison County. It describes settlement; physiography, relief, and drainage; natural resources; farming; and climate.

Settlement

During prehistoric times, the survey area was inhabited by natives who built the largest manmade earthen mound in North America, now called Monks Mound. These people were replaced by a loose confederation of several peaceful tribes, whom the French encountered when they first explored the area

in 1673. The French did not establish major settlements but occupied the area until 1765, when the British arrived. British occupation lasted until 1778, when George Rogers Clark arrived and claimed the area for Virginia (Underwood, 1974). The first American settlers came from Kentucky, Virginia, Tennessee, and the Carolinas.

Development of the county was accelerated by two separate events in the 1800s. The first was the introduction of new scientific methods of farming brought by German settlers in the 1830s. These new methods spurred agricultural production. The second was the expansion of industries in the early 1870s, particularly the steel and oil industries.

Physiography, Relief, and Drainage

Madison County has an extremely wide variety of topographic features. The major features are the upland till plains and bluffs and the alluvial Mississippi River Valley known as the American Bottoms.

The highly urbanized American Bottoms makes up about 14 percent of the county. It occurs as three major areas. The first area consists of alternating narrow ridges and swales. It is adjacent to the river and is quite extensive in the southwestern part of the county (Yarbrough and Chiste, 1972). The second area consists of terraces and footslopes adjacent to bluffs. It includes the colluvial footslopes between the bluffs and the floor of the valley. The terraces, known as the Poag and Wood River Terraces, are relatively

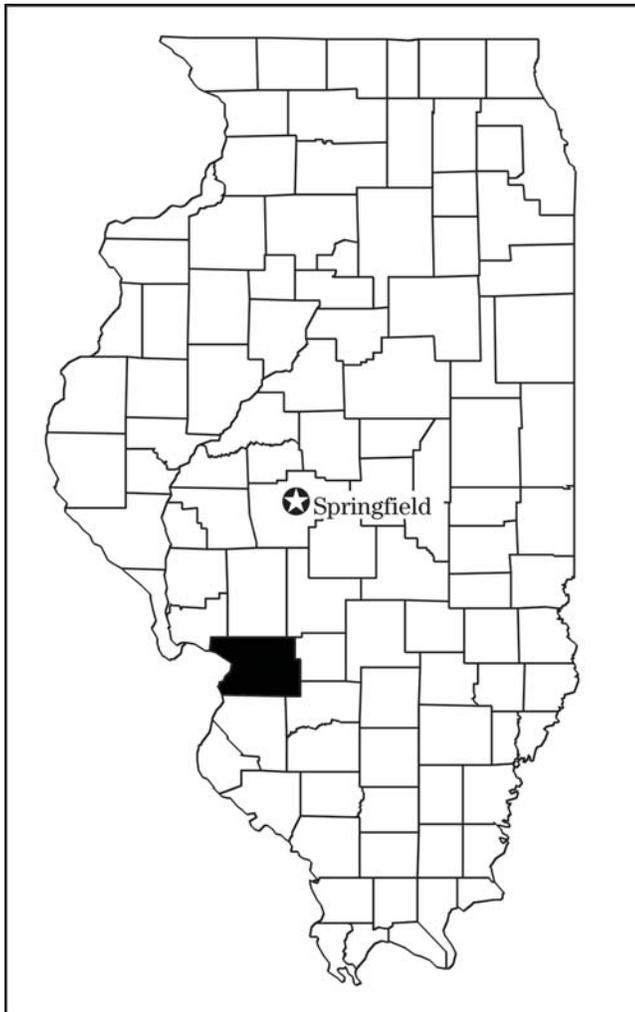


Figure 1.—Location of Madison County in Illinois.

large, are elevated, and have moderately steep escarpments. The third area consists of very broad flats and depressions. It is between the terraces and the ridges and swales. It extends from Wood River to the northeastern part of Horseshoe Lake. It is characterized by broad swales, sloughs, and backwater marshes. The soils in this area are high in clay content, are poorly drained, and are often ponded.

The uplands are loess-covered till plains. The thickest loess deposits, 40 to 80 feet thick, are on the bluffs. The loess thins to about 5 feet in the northeast corner of the county. Limestone outcrops are quite common in the bluff area northwest of Alton. This highly weathered limestone is responsible for small areas of karst topography, which is characterized by sinkholes.

The bluff area is highly dissected. It has long, narrow ridges and steep side slopes. East of the bluffs, the ridges are rather broad and the side slopes are less sloping. This gently sloping landscape has a thick layer of loess. To the east and northeast is a broad, level plain that has a few low-lying knolls and ridges and is dissected by many small creeks.

The bluffs are as high as 650 feet above sea level. On the American Bottoms, the swales are as low as 400 feet and the ridges are about 425 feet above sea level. The elevation of the broad, level ridges is about 620 feet above sea level in the northeastern part of the county and gradually decreases to about 540 feet in the southeast corner.

Water in the main drainageways in the county flows to the south and west. Woodriver Creek and Cahokia Creek drain the western half of the county and empty directly into the Mississippi River. Silver Creek and a small part of Sugar Creek drain the eastern half of the county and flow south into the Kaskaskia River, which drains into the Mississippi River.

Natural Resources

The most abundant natural resources in Madison County, other than soil, are limestone, sand and gravel, coal, oil, timber, and water. Coal is the most important mineral in southwestern Illinois. It was mined in the county from 1882 to 1964. Although the county has large coal reserves, it currently has no active mines.

Limestone is a valuable mineral mined in Madison County. Limestone outcrops are mainly on the bluffs in the area near the city of Alton to the Jersey County line, but they are also common along the major streams. The limestone is used for Portland cement, concrete aggregate, lime, railroad ballast, riprap, building stone, crushed stone, and filter beds (Baxter, 1965).

The county has several active sand and gravel pits. Most of the sand deposits are on the terraces adjacent to the flood plains along the Mississippi River. The main source of gravel is the Hagerstown drift deposits on hills and ridges in the eastern part of the county. The gravel pits are normally in areas where the overburden is thin. The sand and gravel are used as road, building, and fill material and as railroad ballast.

A small acreage of the county is forested. These mixed, deciduous forests have a wide variety of tree species. Those on uplands are dominated by oaks and hickories, and those on the flood plains are dominated by silver maple, cottonwood, pin oak, sycamore, pecan, box elder, and ash.

The industries and municipalities on the flood plains along the Mississippi River obtain their water directly from the river or from valley fill material on the flood plains. The valley fill material along Silver Creek is an important source of ground water. Aquifers in the Mississippian-age limestone in the northwestern part of the county are good sources of water for farm and domestic purposes. Scattered sand and gravel aquifers in the underlying till plain deposits, however, supply wells with moderate amounts of water for small communities and rural households. Drinking water for most rural households is supplied by low-yielding wells that are 35 to 150 feet deep. The numerous ponds throughout the county supply ample water for livestock.

Farming

The rich alluvial soils on the flood plains along the Mississippi River and the soils that formed in a thick layer of loess on uplands have always provided Madison County with abundant farmland. The original settlers first planted peach and apple orchards, grape vineyards, wheat, oats, corn, and melons. Although the orchards and vineyards have largely disappeared, corn, wheat, and soybeans are grown extensively. Sorghum also is grown, and many acres are used for horseradish, sweet corn, tomatoes, onions, potatoes, berries, and fruits. Madison County is the largest producer of horseradish in the United States.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Alton Dam in the period 1971 to 2000. Table 2 provides data on length of the growing season.

Madison County is cold in winter and quite hot in summer. Winter precipitation, frequently in the form of snow, results in a good accumulation of soil moisture by spring and minimizes drought in summer on most soils. The normal annual precipitation is adequate for all crops that are adapted to the temperature and growing season in the survey area.

In winter, the average temperature is 31 degrees F and the average daily minimum temperature is 23 degrees. The lowest temperature on record, which occurred at Alton Dam on January 10, 1982, is -16 degrees. In summer, the average temperature is 77 degrees and the average daily maximum temperature is 87 degrees. The highest recorded temperature, which occurred on July 14, 1954, is 111 degrees.

The total annual precipitation averages 38.47 inches. Of this total, about 21.2 inches, or 55 percent,

usually falls in April through September. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 7.7 inches at Alton Dam on April 23, 1996.

Thunderstorms occur on about 50 days each year, and most occur between April and August.

The average seasonal snowfall is about 8.5 inches. The greatest snow depth at any one time during the period of record was 21 inches recorded on February 9, 1982. On an average, 10 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. The heaviest 1-day snowfall on record was 13 inches recorded on March 8, 1978.

The average relative humidity in midafternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 80 percent. The sun shines 70 percent of the time possible in summer and 50 percent in winter. The prevailing wind is from the south in the summer and from the west and northwest in the winter and spring. Average windspeed is highest, 11 miles per hour, in March.

Tornadoes and severe thunderstorms occur occasionally. They are of local extent and of short duration and cause only sparse damage in narrow areas. Hailstorms sometimes occur during the warmer periods.

How This Survey Was Made

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

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landscape 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 they were formed.

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

Fieldwork in Madison County consisted primarily of soil transects conducted by soil scientists. Soil transects are a systematic method of sampling a specific soil type. Soil borings are taken at regular intervals. Soil scientists then record the characteristics of the soil profiles that they study. They note soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. This information can then be used to run statistical analyses for specific soil properties. The results of these analyses, along with other observations, enable the soil scientists to assign the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

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

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

Aerial photographs used in this survey were taken in 1998. Soil scientists also studied U.S. Geological Survey topographic maps (enlarged to a scale of 1:12,000), orthophotographs, and infrared photography to relate land and image features. Specific soil boundaries 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.

Formation and Classification of the Soils

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

Factors of Soil Formation

Soil forms through processes that act on deposited geologic material. The factors of soil formation are the physical and mineralogical composition of the parent material; the climate in which the soil formed; the plant and animal life on and in the soil; the relief; and the length of time during which the processes of soil formation have acted on the parent material (Jenny, 1941).

Climate and plant and animal life are the major active factors of soil formation. They act directly on the parent material, either in place or after being moved from place to place by water, wind, or glaciers, and slowly change it into a natural body that has genetically related horizons. Relief modifies soil formation and can inhibit soil formation on the steeper eroded slopes and in wet, depressional or nearly level areas by controlling the moisture status of soils. Finally, time is needed for changing the parent material into a soil that has differentiated horizons.

The factors of soil formation are so closely interrelated and conditioned by each other that few generalizations can be made regarding the effects of any one factor unless the effects of the other factors are understood.

Parent Material

Parent material is the geologic material in which a soil forms. Most of the soils of Madison County were derived from parent materials that are a direct or indirect result of glaciers. The parent materials in this survey area are loess, glacial till, glacial outwash, alluvium, colluvium, and lacustrine deposits. A few soils formed in bedrock residuum.

Loess, or wind-deposited silty material, is the most extensive parent material in Madison County. The

loess ranges in thickness from more than 80 feet near the bluffs to less than 5 feet in the eastern part of the county. Menfro and Winfield soils are examples of soils that formed in loess.

Glacial till is nonstratified drift transported and deposited directly by glacial ice with a minimum of water action. It is a mixture of particles of various sizes. The small pebbles in glacial till have sharp corners, a characteristic indicating that they have not been worn by water. The till is acid and firm and ranges from loam to clay, depending on the degree of weathering. Hickory soils are examples of soils that formed in glacial till.

Glacial outwash was deposited by running water from melting glaciers. The size of the particles varies, depending on the speed of the stream that carried the material. When the water slowed down, the coarser particles were deposited. The finer particles were carried a greater distance by more slowly moving water. Negley soils are examples of soils that formed in glacial outwash.

Alluvium is material deposited by streams on their flood plains. This material varies in texture, depending on the speed of the water from which it was deposited. Wakeland and Birds soils formed in recent silty alluvium along Silver Creek and its tributaries. Alluvial soils on the flood plain along the Mississippi River range from the sandy Rocher soils to the clayey Darwin soils.

Colluvium is material moved by creep, slide, or local wash and deposited at the base of steep slopes. In Madison County, the colluvium is mainly silt loam and is at the base of the bluffs along the Mississippi River flood plain. Drury, Raddle, and Worthen soils formed in this material.

Lacustrine material was deposited under still or ponded glacial meltwater. The coarser material drops out of moving water as outwash; consequently, only the finer material, such as silt and clay, remains to settle out in the still water. Colp and Hurst soils formed in about 20 inches of loess or other silty material overlying clayey lacustrine material.

A few soils, such as Gosport soils, formed in a thin

mantle of loess over material weathered from bedrock. These parent materials are not extensive and are only on deeply dissected side slopes in the uplands.

Climate

The climate in Madison County has significantly affected the soil-forming processes. Climatic factors, such as precipitation and temperature, have influenced the existing plant and animal communities and the physical and chemical weathering of the parent material.

During the colder glacial epoch, the cold temperatures in the soil reduced the rate of chemical reactions in the existing soils and in the raw parent material. Increased frost action, resulting from the periglacial climate, caused frost churning in some soils. Strong winds swept across the recently deposited glacial material, which was largely devoid of vegetation, and carried away large amounts of silt-sized particles, which were later deposited as loess. When the glacial ice retreated and the climate gradually warmed, deciduous forests eventually succeeded the boreal vegetation.

The county currently has a humid, temperate climate, which has persisted for thousands of years. 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 microclimate in a given area can affect soil formation. Pierron soils, which are in depressions or low-lying areas, receive runoff from the higher adjacent slopes. The runoff creates a wet microclimate that results in prolonged saturation, the reduction of iron, and a gray subsoil.

Climate also influences the kind and extent of plant and animal life. The climate in Madison County has favored prairie grasses and hardwood forests. Heavy rains can harm exposed areas of soil that have been farmed. Spring rains and wind can cause extensive erosion when crop residue and trees are removed from the surface. More soil may be lost through erosion each year than is formed by natural processes.

Living Organisms

The vegetation under which a soil forms influences 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 material to the soil. Gases derived from root respiration combine with water to form acids that influence the weathering of minerals. Because of the lower content of organic matter, soils that formed under forest vegetation are generally lighter colored than those that formed under grasses.

At the time Madison County was settled, the native vegetation consisted mainly of hardwood forests. Differences in natural soil drainage and minor variations in the parent material have affected the composition of the forest species.

Bacteria, fungi, and many other micro-organisms decompose organic material and release nutrients to growing plants. They also influence the formation of peds, which are natural soil aggregates. 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 acid soils, and bacteria are more active in the less acid soils.

Earthworms, 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 matter improves 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. Native forests have been cleared and developed for farming and other uses. Cultivation has accelerated erosion on sloping soils; wet soils have been drained; and manure, lime, chemical fertilizer, and pesticides have been applied in cultivated areas. Cultivation has affected soil structure and compaction and lowered the content of organic matter. The development of land for urban uses or for mining has significantly influenced the soils in some areas.

Relief

Relief, which includes elevation and topography, influences soil formation through its effect on runoff and erosion. To a lesser extent, it also influences soil temperature, the plant cover, depth to the water table, and the accumulation and removal of organic matter.

Because it causes differences in external soil drainage, relief can differentiate soils that formed in the same kind of parent material. Water that runs off the more sloping soils can collect in depressions or swales. Ruma and Pierron soils both formed in loess.

The sloping to steep Ruma soils on convex summits and side slopes are well drained. They are in areas where external drainage is good. The nearly level Pierron soils are poorly drained. They are in slight depressions that receive runoff from higher adjacent soils, and they have poor internal drainage.

Relief varies in Madison County. On the ground moraines in the eastern part of the county, the soils generally range from nearly level on the interfluves to moderately sloping along the drainageways. Relief becomes more pronounced in the western part of the county near the bluff. In the Mississippi River Valley, relief is nearly level to gently undulating.

Time

The length of time that the parent material has been exposed to soil-forming processes influences the nature of the soil that forms. The youngest soils in the county, such as Birds, Rocher, and Wakeland soils, formed in recent alluvium. These soils can be stratified and have weakly expressed horizons because the soil-forming processes are interrupted with each new deposition.

Glaciers advanced over much of Madison County during the Illinois Glaciation. Glacial deposits, in the form of loess and alluvium, from the Wisconsin Glaciation were deposited many years later. Glacial deposits of Wisconsin age are geologically young, yet enough time has elapsed for the initially raw parent material to weather into soils that have distinct horizons. In most of these soils, including Caseyville, Menfro, and Winfield soils, carbonates have been leached, clay has been translocated from the A horizon to the B horizon, and organic matter has accumulated in the A horizon.

Processes of Soil Formation

Soil forms through complex processes. These processes can be grouped into four general categories—additions, removals, transfers, and transformations. All of these processes affect soil formation, although in differing degrees.

The accumulation of organic matter in the A horizon of the soils in Madison County is an example of an *addition*. This accumulation is the main reason for the dark color of the A horizon. The color of the raw parent material generally is uniform throughout.

The leaching of carbonates from the upper several feet in many of the deep loess soils is an example of a *removal*. The parent material of these soils was initially calcareous, but the carbonates have been leached from the soil profile by percolating water.

The translocation of clay from the A horizon to the B horizon in many soils on uplands in the county is an example of a *transfer*. The A horizon (or an E horizon) is a zone of eluviation, or loss. The B horizon is a zone of illuviation, or gain. In Marine, Winfield, and other soils, the B horizon has more clay than the parent material and the A horizon has less clay. In the B horizon of some soils, faint to prominent clay films are in pores and on faces of peds.

An example of a *transformation* is the reduction and solubilization of ferrous iron. This process takes place under wet, saturated conditions in which there is a lack of molecular oxygen. Gleying, or the reduction of iron, is evident in Ambraw, Beaucoup, and Pierron soils, which have a dominantly gray subsoil. The gray color indicates the presence of reduced ferrous iron, which, in turn, implies wetness. Reduced iron is soluble, but it commonly has been removed short distances in the soils, stopping either in the horizon where it originated or in an underlying horizon. Part of this iron can be reoxidized and segregated in the form of stains, masses, nodules, concretions, or bright yellow and red concentrations (formerly called mottles).

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 3 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is 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 Aquoll (*Aqu*, meaning water, 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; type of saturation; and base status. Each

great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Endoaquolls (*Endo*, referring to endosaturation, plus *aquoll*, the suborder of the Mollisols that has an aquic moisture regime).

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

FAMILY. Families are established within a subgroup on the basis of physical and chemical

properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, soil temperature regime, thickness of the root zone, consistence, moisture equivalent, and reaction. 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 Fluvaquentic Endoaquolls.

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

Soil Series and Detailed Soil Map Units

In this section, arranged in alphabetical order, each soil series recognized in the survey area is described. Each series description is followed by descriptions of the associated detailed 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, 1998). 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 some of the soil properties and qualities that may affect 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 soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Homen silt loam, 5 to 10 percent slopes, eroded, is a phase of the Homen series.

Some map units are made up of two or more major soils. These map units are called complexes. A *complex* consists of two or more soils in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils are somewhat similar in all areas. Sylvan-Bold silt loams, 18 to 35 percent slopes, eroded, is an example.

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

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

Ambraw Series

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Fluvaqueptic Endoaquolls

Typical Pedon

Ambraw silty clay loam, on a nearly level flood plain in a cultivated field, at an elevation of about 385 feet above mean sea level; about 2 miles southeast of Fults, in Monroe County, Illinois; approximately 2,000 feet northwest of field lane and 150 feet northeast of railroad tracks; T. 4 S., R. 10 W.; USGS Renault, Illinois, topographic quadrangle; lat. 38 degrees 08 minutes 27 seconds N. and long. 90 degrees 10 minutes 47 seconds W., NAD 27:

Ap—0 to 11 inches; very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; common fine roots; 36 percent clay and 19 percent sand; slightly acid; abrupt smooth boundary.

Bg1—11 to 15 inches; dark gray (10YR 4/1) clay; moderate medium prismatic structure parting to moderate fine subangular blocky; firm; few fine roots; common fine prominent dark brown (7.5YR 3/4) masses of iron accumulation in the matrix; 41 percent clay and 24 percent sand; neutral; clear smooth boundary.

Bg2—15 to 21 inches; dark gray (10YR 4/1) clay loam; moderate medium prismatic structure parting to

moderate fine subangular blocky; friable; few very fine roots; common fine prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; 38 percent clay and 28 percent sand; neutral; clear smooth boundary.

Bg3—21 to 25 inches; gray (10YR 5/1) clay loam; moderate medium prismatic structure parting to moderate fine subangular blocky; friable; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; 30 percent clay and 43 percent sand; neutral; clear smooth boundary.

Bg4—25 to 34 inches; gray (10YR 5/1) sandy clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; very friable; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine prominent strong brown (7.5YR 4/6) and few fine distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; 20 percent clay and 59 percent sand; neutral; clear smooth boundary.

BCg—34 to 42 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak medium prismatic structure parting to moderate fine subangular blocky; very friable; few very fine roots; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 13 percent clay and 69 percent sand; neutral; clear smooth boundary.

CBg1—42 to 54 inches; gray (10YR 5/1) loam; weak medium prismatic structure parting to weak medium subangular blocky; very friable; few very fine roots; many coarse prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; 11 percent clay and 50 percent sand; neutral; clear smooth boundary.

CBg2—54 to 60 inches; gray (10YR 5/1) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; 21 percent clay and 8 percent sand; neutral.

Range in Characteristics

Depth to the base of soil development: Typically 40 to 50 inches but ranges to more than 60 inches

Thickness of the mollic epipedon: 10 to 24 inches

Texture of the particle-size control section: Averages between 24 and 35 percent clay and between 15 and 50 percent fine sand or coarser

Depth to carbonates (if they occur): More than 50 inches

Other features: Some pedons have an AB or a BA horizon.

Ap or A horizon:

Hue—10YR

Value—2 or 3 (3 to 5 dry)

Chroma—1 or 2

Texture—clay loam or silty clay loam

Bg horizon, upper part:

Hue—10YR or 2.5Y

Value—3 or 4

Chroma—1 or 2

Texture—clay, clay loam, or loam

Bg horizon, lower part:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—clay loam, loam, or sandy clay loam

BCg, CBg, or Cg horizon (if it occurs):

Hue—10YR, 2.5Y, 5Y, or N

Value—4 or 5

Chroma—0 to 2

Texture—clay loam, sandy clay loam, sandy loam, or loam; commonly contains strata of loam, sandy loam, silt loam, or loamy sand

8302A—Ambraw silty clay loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Loamy alluvium

Flooding frequency: Occasional

Map Unit Composition

Ambraw and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a thicker dark surface layer than that of the Ambraw soil
- Soils that contain more silt and less sand in the upper part of the subsoil than the Ambraw soil
- Soils that contain more sand in the subsoil than the Ambraw soil

Dissimilar soils:

- The somewhat poorly drained Nameoki and Shaffton soils in the higher landform positions
- Small areas of very poorly drained soils in undrained depressions

Arenzville Series

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

Typical Pedon

Arenzville silt loam, in a nearly level area in a cultivated field, at an elevation of about 390 feet above mean sea level; about 2 miles west of Modoc, in Randolph County, Illinois; approximately 1,500 feet west of Bluff Road and 50 feet north of field lane; T. 5 S., R. 9 W.; USGS Prairie du Rocher, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 03 minutes 55 seconds N. and long. 90 degrees 03 minutes 58 seconds W., NAD 27:

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; very friable; many very fine roots; slightly acid; clear smooth boundary.

C1—9 to 22 inches; brown (10YR 4/3) silt loam; massive; very friable; common very fine roots; slightly acid; clear smooth boundary.

C2—22 to 31 inches; brown (10YR 4/3) silt loam; massive; friable; few very fine roots; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; few fine irregular strong brown (7.5YR 4/6) masses of iron-manganese accumulation in the matrix; slightly acid; clear smooth boundary.

Ab1—31 to 44 inches; very dark brown (10YR 2/2) silt loam; moderate fine subangular blocky structure; friable; few very fine roots; common fine faint brown (10YR 4/3) masses of iron accumulation in the matrix and common fine prominent dark reddish brown (5YR 3/3) masses of iron accumulation on faces of peds; few fine irregular strong brown (7.5YR 4/6) masses of iron-manganese accumulation; neutral; gradual smooth boundary.

Ab2—44 to 56 inches; very dark brown (10YR 2/2) silt loam; weak fine subangular blocky structure; friable; few very fine roots; few fine irregular strong brown (7.5YR 4/6) masses of iron-manganese accumulation; neutral; gradual smooth boundary.

Bwb—56 to 70 inches; brown (10YR 4/3) silty clay loam; weak medium subangular blocky structure; friable; common fine faint grayish brown (10YR

5/2) iron depletions and few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine irregular strong brown (7.5YR 4/6) masses of iron-manganese accumulation; neutral.

Range in Characteristics

Depth to the Ab horizon: 20 to 60 inches

Content of clay in the particle-size control section:

Averages between 10 and 18 percent

Reaction: Moderately acid to slightly alkaline

Depth to carbonates (if they occur): More than 60 inches

Ap or A horizon:

Hue—10YR

Value—3 to 5 (6 or 7 dry)

Chroma—2 or 3

Texture—silt loam

C horizon:

Hue—10YR

Value—3 to 5

Chroma—2 to 4

Texture—dominantly silt loam; thin lenses with coarser texture are common

Ab horizon:

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or silty clay loam; thin strata with coarser texture are common

Bwb or Btb horizon (if it occurs):

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—silt loam or silty clay loam; thin strata with coarser texture are common

C' horizon (if it occurs):

Hue—10YR

Value—4 to 6

Chroma—1 to 6

Texture—typically silt loam; thin strata with coarser texture are common

8078A—Arenzville silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Silty alluvium

Flooding frequency: Occasional

Map Unit Composition

Arenzville and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that are deeper to the dark buried soil than the Arenzville soil
- Soils that have a clayey dark buried soil
- Soils that are well drained

Dissimilar soils:

- Small areas of poorly drained soils in slight depressions
- Small areas of the well drained Drury soils, which are more sloping than the Arenzville soil and are closer to the bluff

Atlas Series

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

Typical Pedon

Atlas silty clay loam, on a slope of 12 percent, on a backslope in a severely eroded area in a cultivated field, at an elevation of about 485 feet above mean sea level; about 5 miles east of Waterloo, in Monroe County, Illinois; approximately 820 feet west and 400 feet south of the northeast corner of sec. 26, T. 2 S., R. 9 W.; USGS Paderborn, Illinois, topographic quadrangle; lat. 38 degrees 20 minutes 15 seconds N. and long. 90 degrees 02 minutes 56 seconds W., NAD 27:

Ap—0 to 9 inches; brown (10YR 4/3) silty clay loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; common very fine and few fine roots; few fine tubular pores; few fine irregular dark reddish brown (5YR 3/3) masses of iron-manganese accumulation with clear boundaries; common fine and medium rounded black (N 2.5/0) iron-manganese nodules with sharp boundaries; neutral; abrupt smooth boundary.

2Bt—9 to 21 inches; yellowish brown (10YR 5/4) silty clay loam; weak fine prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; few fine tubular pores; few faint brown (10YR 5/3) clay films on faces of peds; many medium distinct grayish brown (10YR 5/2) iron depletions and common fine prominent yellowish

red (5YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular dark brown (7.5YR 3/4) iron-manganese nodules with clear boundaries; about 1 percent pebbles; moderately acid; clear smooth boundary.

2Btg1—21 to 31 inches; gray (10YR 6/1) silty clay loam; moderate fine prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; common faint grayish brown (10YR 5/2) clay films on faces of peds and few prominent very dark grayish brown (10YR 3/2) organo-clay films lining root channels and pores; many fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular dark reddish brown (5YR 3/3) iron-manganese nodules with clear boundaries; about 2 percent pebbles; slightly acid; clear smooth boundary.

2Btg2—31 to 41 inches; gray (10YR 6/1) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; very firm; few very fine roots; common faint grayish brown (10YR 5/2) clay films on faces of peds; many coarse prominent strong brown (7.5YR 5/6) and few medium prominent reddish brown (5YR 4/4) masses of iron accumulation in the matrix; few medium rounded dark brown (7.5YR 3/2) iron-manganese concretions with sharp boundaries; about 2 percent pebbles; neutral; clear smooth boundary.

2Btg3—41 to 51 inches; gray (10YR 6/1) silty clay; moderate coarse prismatic structure parting to moderate medium angular blocky; very firm; few very fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; many coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular black (10YR 2/1) iron-manganese nodules with clear boundaries; about 5 percent pebbles; slightly alkaline; clear smooth boundary.

2Btg4—51 to 65 inches; gray (10YR 6/1) silty clay; weak coarse prismatic structure parting to weak medium angular blocky; very firm; common distinct gray (10YR 5/1) clay films on faces of peds; many coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; many medium and coarse black (10YR 2/1) iron-manganese concretions with sharp boundaries; about 5 percent pebbles; slightly alkaline; gradual smooth boundary.

2Btg5—65 to 80 inches; gray (10YR 5/1) silty clay; weak coarse prismatic structure parting to weak medium angular blocky; very firm; common distinct

dark gray (10YR 4/1) clay films on faces of peds; many coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; many coarse black (10YR 2/1) iron-manganese concretions with sharp boundaries; about 5 percent pebbles; slightly alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 42 to more than 80 inches

Thickness of the loess or silty pedisegment: 0 to 20 inches

Texture of the particle-size control section: Averages between 35 and 45 percent clay and between 10 and 35 percent sand

Other features: Some pedons have an E or a BE horizon.

Ap or A horizon:

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—1 to 4

Texture—silty clay loam

Bt or 2Bt horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—3 or 4

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

Btg or 2Btg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

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

BC and C horizons or 2BC and 2C horizons (if they occur):

Hue—7.5YR, 10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 6

Texture—silty clay loam, clay loam, or loam

914C3—Atlas-Grantfork silty clay loams, 5 to 10 percent slopes, severely eroded

Setting

Landform: Till plains

Position on the landform: Erosional side slopes

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Atlas—glacial till that

contains a strongly developed paleosol;
Grantfork—loamy erosional sediments overlying
glacial till that commonly contains a strongly
developed paleosol

Flooding: None

Map Unit Composition

Atlas and similar soils: 50 percent

Grantfork and similar soils: 40 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain more silt in the upper part
- Soils that contain less clay in the subsoil
- Areas of soils that are less eroded

Dissimilar soils:

- The somewhat poorly drained Wakeland soils on narrow flood plains
- The well drained Hickory soils on the steeper side slopes

914D3—Atlas-Grantfork silty clay loams, 10 to 18 percent slopes, severely eroded

Setting

Landform: Till plains

Position on the landform: Erosional side slopes

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Atlas—glacial till that
contains a strongly developed paleosol;
Grantfork—loamy erosional sediments overlying
glacial till that commonly contains a strongly
developed paleosol

Flooding: None

Map Unit Composition

Atlas and similar soils: 50 percent

Grantfork and similar soils: 40 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain more silt in the upper part
- Soils that contain less clay in the subsoil
- Areas of soils that are less eroded

Dissimilar soils:

- The somewhat poorly drained Wakeland soils on narrow flood plains

- The well drained Hickory soils on the steeper side slopes

Aviston Series

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

Typical Pedon

Aviston silt loam, in a gently sloping area in a cultivated field, at an elevation of about 500 feet above mean sea level; about 1 mile southwest of Addieville, in Washington County, Illinois; approximately 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., NAD 27:

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; about 22 percent clay; 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; firm; common very fine roots between peds; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; about 33 percent clay; 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; firm; 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 iron-manganese accumulation; about 30 percent clay; 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 iron-manganese accumulation; about 28 percent clay; 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 accumulation in the matrix; common fine and medium irregular black (10YR 2/1) masses of iron-manganese accumulation; about 28 percent clay; 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 iron-manganese accumulation; about 24 percent clay; slightly acid; clear smooth boundary.

2BCt—67 to 80 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 pinkish gray (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 iron-manganese accumulation; about 17 percent clay; slightly acid.

Range in Characteristics

Depth to the base of the argillic horizon: 52 to more than 80 inches

Thickness of the loess: About 60 to 80 inches

Thickness of the mollic epipedon: 10 to 20 inches

Texture of the particle-size control section: Averages between 27 and 35 percent clay and less than 7 percent sand

Other features: Some pedons have an AB or a BA horizon.

Ap and A horizons:

Hue—10YR

Value—3 (5 dry); 2 or 3 (4 or 5 dry) in undisturbed areas

Chroma—1 to 3; 1 or 2 in undisturbed areas

Texture—silt loam

Bt horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6; 2 to 6 in the lower part

Texture—silty clay loam; silt loam in the lower part in some pedons

2Bt, 2BC, and 2C horizons (if they occur):

Hue—7.5YR, 10YR, or 2.5Y

Value—5 or 6

Chroma—1 to 4

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

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

Setting

Landform: Loess-covered till plains

Position on the landform: Convex summits

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Loess; or loess and the underlying silty pedisement

Flooding: None

Map Unit Composition

Aviston and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a lighter colored surface layer than that of the Aviston soil
- Soils that are well drained
- Areas of soils that are eroded

Dissimilar soils:

- The poorly drained Virden soils in small depressions

438C2—Aviston silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Convex summits, shoulders, and backslopes

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Loess; or loess and the underlying silty pediment

Flooding: None

Map Unit Composition

Aviston and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a lighter colored surface layer than that of the Aviston soil
- Soils that are well drained
- Soils that have slopes of more than 10 percent or less than 5 percent

Dissimilar soils:

- The poorly drained Virden soils in small depressions

Beaucoup Series

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

Typical Pedon

Beaucoup silty clay loam, in a nearly level area in a cultivated field, at an elevation of about 395 feet above mean sea level; about 6 miles northwest of Valmeyer, in Monroe County, Illinois; approximately 2,180 feet west and 2,080 feet south of the northeast corner of sec. 17, T. 2 S., R. 11 W.; USGS Valmeyer, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 21 minutes 48 seconds N. and long. 90 degrees 20 minutes 22 seconds W., NAD 27:

Ap—0 to 11 inches; very dark gray (10YR 3/1) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common very fine and fine roots throughout; few fine rounded black (N 2.5/0) iron-manganese nodules; neutral; abrupt smooth boundary.

AB—11 to 16 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine angular blocky structure; friable;

common very fine and fine roots throughout; common fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; few fine irregular brown (7.5YR 4/4) masses of iron-manganese accumulation and few fine rounded black (N 2.5/0) iron-manganese nodules; neutral; clear smooth boundary.

Btg1—16 to 24 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium prismatic structure parting to moderate fine angular blocky; friable; few very fine and fine roots along faces of peds; common distinct very dark grayish brown (2.5Y 3/2) organo-clay films on faces of peds; common fine prominent reddish brown (5YR 4/4) masses of iron accumulation in the matrix; few fine irregular yellowish red (5YR 4/6) masses of iron-manganese accumulation and few fine rounded black (N 2.5/0) iron-manganese nodules; slightly alkaline; clear smooth boundary.

Btg2—24 to 35 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium prismatic structure parting to moderate fine angular blocky; friable; few very fine roots along faces of peds; many distinct very dark grayish brown (2.5Y 3/2) organo-clay films on faces of peds; thin band of dark grayish brown (2.5Y 4/2) silt coatings, light brownish gray (2.5Y 6/2) dry, at a depth of 32 inches; common fine prominent dark red (2.5YR 3/6) masses of iron accumulation in the matrix; few fine irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation and few fine rounded black (N 2.5/0) iron-manganese nodules; slightly alkaline; clear smooth boundary.

Btg3—35 to 46 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; friable; few very fine roots along faces of peds; few very fine and fine tubular pores; many distinct very dark grayish brown (2.5Y 3/2) organo-clay films on faces of peds; common medium prominent brown (7.5YR 4/4) and few fine prominent dark red (2.5YR 3/6) masses of iron accumulation in the matrix; few fine irregular strong brown (7.5YR 5/6) and black (N 2.5/0) masses of iron-manganese accumulation; slightly alkaline; clear smooth boundary.

Btg4—46 to 64 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium angular blocky; friable; few very fine roots along faces of peds; common very fine and fine tubular pores; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) and few

medium prominent reddish brown (5YR 4/3) masses of iron accumulation in the matrix; few medium irregular black (N 2.5/0) masses of iron-manganese accumulation; slightly alkaline; clear smooth boundary.

Cg—64 to 80 inches; stratified, dark grayish brown (2.5Y 4/2) silty clay loam and silt loam; massive; friable; few fine tubular pores; common fine faint gray (10YR 5/1) iron depletions and common medium distinct brown (10YR 4/3) masses of iron accumulation in the matrix; common medium irregular black (N 2.5/0) masses of iron-manganese accumulation; slightly alkaline.

Range in Characteristics

Depth to the base of soil development: 35 to 65 inches

Thickness of the mollic epipedon: 10 to 24 inches; the mollic epipedon extends into the upper part of the B horizon in some pedons

Texture of the particle-size control section: Averages between 27 and 35 percent clay and less than 15 percent fine sand or coarser

Reaction: Moderately acid to slightly alkaline

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

Other features: Some pedons have a BCg horizon.

Ap or A horizon:

Hue—10YR or N

Value—2 or 3 (4 or 5 dry)

Chroma—0 to 2

Texture—silty clay loam

Bg or Btg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—silty clay loam

Cg horizon:

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

1070L—Beaucoup silty clay loam, undrained, 0 to 2 percent slopes, occasionally flooded, long duration

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Very poorly drained

Dominant parent material: Alluvium of silty clay loam

Flooding frequency: Occasional

Map Unit Composition

Beaucoup and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain more clay in the upper part than the Beaucoup soil
- Soils that contain more sand in the substratum than the Beaucoup soil
- Soils that contain carbonates in the subsoil

Dissimilar soils:

- The somewhat poorly drained Nameoki and Tice soils in the higher landform positions

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

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Alluvium of silty clay loam

Flooding frequency: Frequent

Map Unit Composition

Beaucoup and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain more clay in the upper part than the Beaucoup soil
- Soils that contain more sand in the substratum than the Beaucoup soil
- Soils that contain carbonates in the subsoil

Dissimilar soils:

- The somewhat poorly drained Tice soils in the higher landform positions
- Very poorly drained soils in undrained depressions that are ponded during the growing season

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

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Alluvium of silty clay loam

Flooding frequency: Frequent

Map Unit Composition

Beaucoup and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain more clay in the upper part than the Beaucoup soil
- Soils that contain more sand in the substratum than the Beaucoup soil
- Soils that contain carbonates in the subsoil

Dissimilar soils:

- The somewhat poorly drained Nameoki soils in the higher landform positions
- Very poorly drained soils in undrained depressions that are ponded during the growing season

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

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Alluvium of silty clay loam

Flooding frequency: Occasional

Map Unit Composition

Beaucoup and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain more clay in the upper part than the Beaucoup soil
- Soils that contain more sand in the substratum than the Beaucoup soil
- Soils that contain carbonates in the subsoil

Dissimilar soils:

- The somewhat poorly drained Tice soils in the higher landform positions
- Very poorly drained soils in undrained depressions that are ponded during the growing season

Bethalto Series

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

Typical Pedon

Bethalto silt loam, in a gently sloping area in a cultivated field, at an elevation of about 500 feet above mean sea level; about 2.5 miles northeast of Troy, in Madison County, Illinois; approximately 1,060 feet north and 500 feet west of the center of sec. 35, T. 4 N., R. 7 W.; USGS Marine, Illinois, topographic quadrangle; lat. 38 degrees 45 minutes 15 seconds N. and long. 89 degrees 50 minutes 50 seconds W., NAD 27:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common very fine roots; common fine tubular pores; few fine rounded black (10YR 2/1) and strong brown (7.5YR 5/6) iron-manganese nodules with sharp boundaries; about 21 percent clay; neutral; abrupt smooth boundary.

Eg1—8 to 11 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium platy structure parting to weak fine granular; friable; few very fine roots; few fine tubular pores; common distinct gray (10YR 6/1) (dry) clay depletions along pores; few fine faint brown (10YR 4/3) masses of iron accumulation in the matrix; few fine rounded black (10YR 2/1) and strong brown (7.5YR 5/6) iron-manganese nodules with sharp boundaries; about 19 percent clay; neutral; clear smooth boundary.

Eg2—11 to 15 inches; grayish brown (10YR 5/2) silt loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to weak medium granular; friable; few very fine roots; few fine tubular pores; many distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds and along pores; few fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; common fine rounded black (10YR 2/1) and strong brown (7.5YR 5/6) iron-manganese nodules with sharp boundaries; about 18 percent clay; slightly acid; clear smooth boundary.

Bt—15 to 24 inches; brown (10YR 4/3) silty clay loam;

moderate fine prismatic structure parting to moderate fine and medium subangular blocky; firm; few very fine roots; few fine tubular pores; few distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds and along pores; many 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 few fine faint dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; few fine and medium rounded black (7.5YR 2.5/1) iron-manganese nodules with clear boundaries; about 32 percent clay; moderately acid; clear smooth boundary.

Btg1—24 to 36 inches; grayish brown (10YR 5/2) silty clay loam; weak fine prismatic structure parting to moderate fine and medium subangular blocky; firm; few very fine roots; few very fine tubular pores; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; common fine rounded black (7.5YR 2.5/1) iron-manganese nodules with clear boundaries; about 31 percent clay; moderately acid; gradual smooth boundary.

Btg2—36 to 48 inches; grayish brown (10YR 5/2) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; few very fine tubular pores; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds and lining pores; many medium and coarse prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; common fine and medium irregular very dark brown (7.5YR 2.5/2) and strong brown (7.5YR 4/6) iron-manganese nodules with clear boundaries; about 30 percent clay; slightly acid; gradual smooth boundary.

Btg3—48 to 62 inches; grayish brown (10YR 5/2) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; few very fine tubular pores; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds and lining pores; many medium and coarse prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; common fine and medium irregular very dark brown (7.5YR 2.5/2) and strong brown (7.5YR 4/6) iron-manganese nodules with clear boundaries; about 28 percent clay; slightly acid; clear smooth boundary.

BCtg—62 to 70 inches; light brownish gray (10YR 6/2) silt loam; weak coarse angular blocky structure; friable; few fine vesicular pores; common distinct dark grayish brown (10YR 4/2) clay films on

vertical faces of peds; few prominent very dark grayish brown (10YR 3/2) organo-clay films lining root channels and filling pores; common medium and coarse prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; common fine and medium irregular very dark brown (7.5YR 2.5/2) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; about 26 percent clay; slightly acid; gradual smooth boundary.

Cg—70 to 80 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; few fine vesicular pores; few distinct dark grayish brown (10YR 4/2) clay films lining root channels and filling pores; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine and medium irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation; about 23 percent clay; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 42 to 80 inches

Texture of the particle-size control section: Averages between 27 and 35 percent clay and less than 7 percent sand

Depth to carbonates (if they occur): More than 60 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 or 2

Texture—silt loam

Eg or E horizon:

Hue—10YR

Value—4 to 6 (6 or 7 dry)

Chroma—1 to 3

Texture—silt loam

BE or EB horizon (if it occurs):

Hue—10YR

Value—4 to 6

Chroma—1 to 3

Texture—silt loam or silty clay loam

Bt or Btg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—2 to 4

Texture—typically silty clay loam; silt loam in the lower part of some pedons

BCt or BCtg horizon (if it occurs):

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6
 Chroma—2 to 4
 Texture—silt loam or silty clay loam

C or Cg horizon:

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

90A—Bethalto silt loam, 0 to 2 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Summits

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Bethalto and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a thicker dark surface layer than that of the Bethalto soil
- Soils that contain more clay in the subsoil than the Bethalto soil

Dissimilar soils:

- The poorly drained Mascoutah soils in small depressions

Biddle Series

Taxonomic classification: Fine, smectitic, mesic Aquic Argiudolls

Map unit in which this series occurs: 894A

Typical Pedon

Biddle silt loam, in an area of Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes; in a nearly level area in a cultivated field; at an elevation of about 475 feet above mean sea level; about 2 miles southwest of Freeburg, in 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., NAD 27:

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) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; about 23 percent clay; 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) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; about 22 percent clay; neutral; clear smooth boundary.

Eg—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) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; about 21 percent clay; 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) and strong brown (7.5YR 5/6) masses of iron-manganese accumulation with sharp boundaries; about 38 percent clay; 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 iron-manganese accumulation with clear strong brown (7.5YR 4/6) boundaries; about 37 percent clay; 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 iron-manganese accumulation with clear strong brown (7.5YR 4/6) boundaries; about 34 percent clay; 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 iron-manganese accumulation with clear strong brown (7.5YR 4/6) boundaries; about 29 percent clay; 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) and dark brown (7.5YR 3/3) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 4/6) boundaries; about 24 percent clay; 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) and dark brown (7.5YR 3/3) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 4/6) boundaries; about 22 percent clay; 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 accumulation in the matrix; common fine and medium irregular black (7.5YR 2.5/1) and dark brown (7.5YR 3/3) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 4/6) boundaries; about 25 percent clay, 12 percent sand, and 1 percent pebbles; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 18 inches

Thickness of the loess: 60 to 80 inches

Depth to carbonates (if they occur): Carbonates typically occur in the B horizon; they occur in the BCg and Cg horizons in some pedons.

Ap and A horizons:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 or 2

Texture—silt loam

Eg horizon (if it occurs):

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—1 or 2

Texture—silt loam

Bt or Btng horizon:

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:

Hue—7.5YR, 10YR, 2.5Y, 5Y, or N

Value—5 or 6

Chroma—0 to 2

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

Birds Series

Taxonomic classification: Fine-silty, mixed, superactive, nonacid, mesic Typic Fluvaquents

Typical Pedon

Birds silt loam, in a nearly level area in a cultivated field, at an elevation of about 445 feet above mean sea level; about 3 miles southeast of Troy, in Madison County, Illinois; approximately 80 feet north and 2,000 feet west of the center of sec. 24, T. 3 N., R. 7 W.; USGS St. Jacob, Illinois, topographic quadrangle; lat. 38 degrees 41 minutes 37 seconds N. and long. 89 degrees 50 minutes 05 seconds W., NAD 27:

Ap—0 to 8 inches; dark gray (10YR 4/1) silt loam, light brownish gray (10YR 6/2) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; common very fine roots; thin lenses of gray (10YR 6/1) silt grains along faces of peds; few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

Cg1—8 to 13 inches; gray (5Y 5/1) silt loam; massive with weak thick platy stratification planes; friable; few very fine roots; few very fine and fine continuous tubular pores; common medium prominent dark reddish brown (5YR 3/3) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

Cg2—13 to 19 inches; stratified, very dark gray (5Y 3/1) and dark gray (5Y 4/1) silt loam and silty clay

loam; massive; firm; few very fine roots; common very fine and fine continuous tubular pores; common medium prominent dark reddish brown (5YR 3/4) masses of iron accumulation in the matrix; few medium rounded black (10YR 2/1) iron-manganese nodules with sharp boundaries; slightly acid; abrupt smooth boundary.

Cg3—19 to 39 inches; gray (5Y 6/1) silt loam; massive; friable; few very fine roots; few very fine continuous tubular pores; many medium prominent yellowish red (5YR 4/6) and yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few medium rounded black (10YR 2/1) iron-manganese nodules with sharp boundaries; moderately acid; clear smooth boundary.

Cg4—39 to 63 inches; variegated light brownish gray (2.5Y 6/2) and light gray (10YR 7/1) silt loam; massive; friable; few very fine roots; few very fine continuous tubular pores; many medium prominent yellowish brown (10YR 5/8) and few medium prominent yellowish red (5YR 4/6) masses of iron accumulation in the matrix; common fine and medium irregular black (10YR 2/1) iron-manganese nodules with clear boundaries; strongly acid; gradual smooth boundary.

Cg5—63 to 78 inches; grayish brown (2.5Y 5/2), stratified silt loam and silty clay loam; massive; friable; few very fine roots; few very fine continuous tubular pores; common fine distinct light gray (10YR 7/1) iron depletions and few medium prominent yellowish brown (10YR 5/8) and strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine and medium irregular black (10YR 2/1) iron-manganese nodules with clear yellowish red (5YR 4/6) boundaries; moderately acid; clear smooth boundary.

2Btgb—78 to 90 inches; dark gray (2.5Y 4/1) silty clay loam; moderate fine prismatic structure parting to weak fine and medium angular blocky; firm; few very fine and fine vesicular and tubular pores; common distinct very dark gray (2.5Y 3/1) organo-clay films on vertical faces of peds and few prominent dark reddish brown (5YR 2.5/2) iron-manganese coatings lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine irregular black (5YR 2.5/1) iron-manganese nodules with clear yellowish red (5YR 4/6) boundaries; slightly acid.

Range in Characteristics

Texture of the particle-size control section: Averages

between 18 and 27 percent clay and less than 15 percent fine sand or coarser sand

Reaction: Typically moderately acid to slightly alkaline to a depth of more than 40 inches; strongly acid in subhorizons of some pedons

Depth to a buried soil (if it occurs): More than 40 inches

Ap, A, or ACg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6 (6 or 7 dry)

Chroma—1 or 2

Texture—silt loam

Cg horizon (to a depth of 40 inches):

Hue—10YR, 2.5Y, or 5Y

Value—4 to 7

Chroma—1 or 2

Texture—silt loam; thin strata of silty clay loam in some pedons

Cg horizon (below a depth of 40 inches):

Hue—10YR, 2.5Y, or 5Y

Value—4 to 7

Chroma—1 or 2

Texture—dominantly silt loam; strata of silty clay loam, clay loam, loam, or sandy loam in some pedons

3334A—Birds silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Silty alluvium

Flooding frequency: Frequent

Map Unit Composition

Birds and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain more clay throughout than the Birds soil
- Soils that are more acid than the Birds soil
- Soils that have a dark buried soil within a depth of 40 inches

Dissimilar soils:

- The moderately well drained Wilbur soils on the higher parts of the flood plain

- Wet soils in depressional areas that are ponded during most of the growing season

8334A—Birds silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Silty alluvium

Flooding frequency: Occasional

Map Unit Composition

Birds and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain more clay throughout than the Birds soil
- Soils that are more acid than the Birds soil
- Soils that have a dark buried soil within a depth of 40 inches

Dissimilar soils:

- The well drained Haymond soils on the higher parts of the flood plain
- Wet soils in depressional areas that are ponded during most of the growing season

Bloomfield Series

Taxonomic classification: Sandy, mixed, mesic
Lamellic Hapludalfs

Typical Pedon

Bloomfield loamy fine sand, in a gently sloping area in a cultivated field, at an elevation of about 430 feet above mean sea level; about 4 miles west of Edwardsville, in Madison County, Illinois; approximately 1,580 feet east and 780 feet north of the center of sec. 19, T. 4 N., R. 8 W.; USGS Wood River, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 47 minutes 10 seconds N. and long. 90 degrees 01 minute 32 seconds W., NAD 27:

Ap—0 to 7 inches; brown (10YR 4/3) loamy fine sand, pale brown (10YR 6/3) dry; weak fine granular structure; very friable; moderately acid; clear smooth boundary.

E1—7 to 19 inches; brown (10YR 4/3) loamy fine

sand; weak very fine and fine granular structure; very friable; slightly acid; gradual smooth boundary.

E2—19 to 35 inches; dark yellowish brown (10YR 4/4) fine sand; single grain; loose; slightly acid; gradual wavy boundary.

E&Bt—35 to 50 inches; yellowish brown (10YR 5/4) fine sand (E); single grain; loose; wavy continuous bands of brown (7.5YR 4/4) loamy fine sand (Bt) 0.25 to 1.0 inch thick; weak fine subangular blocky structure; very friable; slightly acid; gradual wavy boundary.

Bt&E—50 to 60 inches; brown (7.5YR 4/4) fine sandy loam (Bt) interspersed with broken pockets of loamy fine sand; weak fine subangular blocky structure; very friable; wavy continuous bands of yellowish brown (10YR 5/4) fine sand (E) 0.5 to 1.0 inch thick; single grain; loose; slightly acid.

Range in Characteristics

Depth to the base of soil development: 60 to more than 80 inches

Ap or A horizon:

Hue—10YR

Value—3 or 4 (5 or 6 dry)

Chroma—2 to 4

Texture—fine sand or loamy fine sand

E horizon:

Hue—10YR

Value—4 to 6 (6 to 8 dry)

Chroma—3 to 6

Texture—fine sand, loamy fine sand, sand, or loamy sand

E part of E&Bt or Bt&E horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—fine sand, loamy fine sand, sand, or loamy sand

Bt part of E&Bt or Bt&E horizon:

Hue—5YR, 7.5YR, or 10YR

Value—3 to 5

Chroma—3 to 6

Texture—loamy fine sand, loamy sand, or fine sand; a few lamellae range to fine sandy loam or sandy loam

C horizon (if it occurs):

Hue—10YR

Value—4 to 7

Chroma—2 to 6

Texture—fine sand, loamy fine sand, or sand

7053B—Bloomfield loamy fine sand, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Terraces

Soil Properties and Qualities

Drainage class: Somewhat excessively drained

Dominant parent material: Sandy alluvial sediments that commonly have been reworked by the wind; or sandy eolian deposits

Flooding frequency: Rare

Map Unit Composition

Bloomfield and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Bloomfield soil
- Soils that contain more clay in the subsoil than the Bloomfield soil
- Soils that have a subsoil of fine sand that does not have dark brown bands

Dissimilar soils:

- The somewhat poorly drained Newhaven soils in the lower landform positions

Bold Series

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

Typical Pedon

Bold silt loam, in a wooded area of Sylvan-Bold silt loams, 18 to 35 percent slopes, eroded; about 1 mile southwest of Southern Illinois University, Edwardsville campus, in Madison County, Illinois; approximately 1,716 feet west and 1,270 feet south of the northeast corner of sec. 20, T. 4 N., R. 8 W.; USGS Wood River, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 47 minutes 10 seconds N. and long. 90 degrees 00 minutes 31 seconds W., NAD 27:

A—0 to 5 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; slightly effervescent; slightly alkaline; clear smooth boundary.

AC—5 to 12 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular and

weak fine subangular blocky structure; friable; common dark brown (10YR 3/3) fillings along root channels; slightly effervescent; slightly alkaline; clear smooth boundary.

C—12 to 60 inches; yellowish brown (10YR 5/4) silt loam; massive; very friable; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the solum: 3 to 12 inches

Thickness of the loess: 6 feet or more

Texture of the particle-size control section: Averages between 12 and 18 percent clay and less than 10 percent total sand

Depth to carbonates: These soils are commonly calcareous throughout, but some pedons do not have carbonates in the upper 10 inches.

Ap or A horizon:

Hue—10YR

Value—4 to 6 (Ap); 3 or 4 (A)

Chroma—2 to 6 (Ap); 1 to 4 (A)

Texture—silt loam

C horizon:

Hue—10YR

Value—4 to 7

Chroma—2 to 8

Texture—silt loam or silt

35F—Bold silt loam, 18 to 35 percent slopes

Setting

Landform: Loess bluffs

Position on the landform: Hillslopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Calcareous loess

Flooding: None

Map Unit Composition

Bold and similar soils: 90 percent

Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that have a subsoil of silty clay loam
- Soils that contain more sand in the substratum than the Bold soil
- Soils that have slopes of more than 35 percent or less than 18 percent

Dissimilar components:

- The well drained Drury and Worthen soils on footslopes
- Areas of limestone escarpments

Bunkum Series

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

Typical Pedon

Bunkum silty clay loam, on a slope of 9 percent, on a west-facing, severely eroded backslope in a cultivated field, at an elevation of about 510 feet above mean sea level; about 1 mile west of Smithton, in St. Clair County, Illinois; approximately 1,740 feet south and 160 feet east of the center of sec. 29, T. 1 S., R. 8 W.; USGS Millstadt, Illinois, topographic quadrangle; lat. 38 degrees 24 minutes 47 seconds N. and long. 90 degrees 00 minutes 37 seconds W., NAD 27:

- Ap—0 to 8 inches; mixed brown (10YR 4/3) and yellowish brown (10YR 5/4) silty clay loam, pale brown (10YR 6/3) dry; moderate very fine subangular blocky structure; friable; many very fine roots; common fine and medium constricted tubular pores; common fine rounded black (7.5YR 2.5/1) iron-manganese nodules with sharp boundaries; about 30 percent clay; neutral; abrupt smooth boundary.
- Bt1—8 to 16 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; common very fine roots; few fine constricted tubular pores; common distinct brown (10YR 5/3) clay films on faces of peds; few fine distinct 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 rounded black (7.5YR 2.5/1) iron-manganese nodules with sharp boundaries; about 34 percent clay; slightly acid; clear smooth boundary.
- Bt2—16 to 26 inches; yellowish brown (10YR 5/4) silty clay loam; weak fine prismatic structure parting to weak fine and medium subangular blocky; firm; common very fine roots; few very fine constricted tubular pores; common distinct brown (10YR 4/3) clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions and common fine and medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common medium and coarse irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation with clear strong brown (7.5YR 4/6)

boundaries; about 31 percent clay; slightly acid; clear smooth boundary.

- Btg1—26 to 32 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to weak medium angular blocky; firm; few very fine roots; few fine and medium constricted tubular pores; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine distinct light olive brown (2.5Y 5/4) and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few medium and coarse irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation with clear strong brown (7.5YR 4/6) boundaries; about 28 percent clay; moderately acid; clear smooth boundary.
- Btg2—32 to 40 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse angular blocky structure; friable; few very fine roots; few fine and medium constricted tubular pores; few prominent dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common medium and coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few medium irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation with clear strong brown (7.5YR 4/6) boundaries; about 26 percent clay; moderately acid; gradual smooth boundary.
- CBg—40 to 58 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; few very fine roots; few fine and medium constricted tubular pores; few prominent dark grayish brown (10YR 4/2) clay films on vertical cleavage planes; few medium and coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine and medium irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 4/6) boundaries; about 21 percent clay; slightly acid; abrupt smooth boundary.
- 2CB—58 to 80 inches; brown (7.5YR 5/4) silt loam; massive; friable; few fine and medium constricted tubular pores; few fine distinct pinkish gray (7.5YR 6/2) iron depletions in the matrix; few medium rounded very dark brown (7.5YR 2.5/3) iron-manganese concretions with clear strong brown (7.5YR 4/6) boundaries; about 25 percent clay and 8 percent sand; slightly acid.

Range in Characteristics

Depth to the base of the argillic horizon: 24 to 60 inches

Thickness of the loess: Typically 24 to about 60 inches

Texture of the particle-size control section: Averages

between 27 and 35 percent clay and less than 7 percent sand

Other features: Some pedons have buried horizons below the C or 2C horizon. These buried horizons are silty clay loam, clay loam, silty clay, or clay.

Ap horizon and A and E horizons (if they occur):

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 to 4

Texture—silt loam or silty clay loam

Bt and Btg horizons:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 4

Texture—silty clay loam or silt loam

BCg or CBg horizon (if it occurs):

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silt loam

2CB or 2C horizon (if it occurs):

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 4

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

515B3—Bunkum silty clay loam, 2 to 5 percent slopes, severely eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Slopes along upland drainageways

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Loess and the underlying silty pedisement

Flooding: None

Map Unit Composition

Bunkum and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a thinner loess mantle than that of the Bunkum soil
- Soils that contain a concentration of exchangeable sodium in the subsoil

- Areas of soils that are less eroded than the Bunkum soil

- Soils that have slopes of more than 5 percent or less than 2 percent

Dissimilar soils:

- The somewhat poorly drained Wakeland soils on narrow flood plains

- The moderately well drained Homen soils on summits and shoulders

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

Setting

Landform: Loess-covered till plains

Position on the landform: Slopes along upland drainageways

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Loess and the underlying silty pedisement

Flooding: None

Map Unit Composition

Bunkum and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a thinner loess mantle than that of the Bunkum soil
- Soils that contain a concentration of exchangeable sodium in the subsoil
- Areas of soils that are less eroded than the Bunkum soil
- Soils that have slopes of more than 10 percent or less than 5 percent

Dissimilar soils:

- The somewhat poorly drained Wakeland soils on narrow flood plains

- The moderately well drained Homen soils on summits and shoulders

515D3—Bunkum silty clay loam, 10 to 18 percent slopes, severely eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Slopes along upland drainageways

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Loess and the underlying silty pedisegment

Flooding: None

Map Unit Composition

Bunkum and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a thinner loess mantle than that of the Bunkum soil
- Soils that contain a concentration of exchangeable sodium in the subsoil
- Areas of soils that are less eroded than the Bunkum soil
- Soils that have slopes of more than 18 percent or less than 10 percent

Dissimilar soils:

- The somewhat poorly drained Wakeland soils on narrow flood plains
- The moderately well drained Homen soils on summits and shoulders

897D3—Bunkum-Atlas silty clay loams, 10 to 18 percent slopes, severely eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Slopes along upland drainageways

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Bunkum—loess and the underlying silty pedisegment; Atlas—glacial till that contains a strongly developed paleosol

Flooding: None

Map Unit Composition

Bunkum and similar soils: 50 percent

Atlas and similar soils: 40 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain a concentration of exchangeable sodium in the subsoil
- Areas of soils that are less eroded than the Bunkum and Atlas soils

- Soils that have slopes of more than 18 percent or less than 10 percent

Dissimilar soils:

- The somewhat poorly drained Wakeland soils on narrow flood plains
- The moderately well drained Homen soils on summits and shoulders

Burksville Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Epiaqualfs

Typical Pedon

Burksville silt loam, in a nearly level area in a cultivated field, at an elevation of about 450 feet above mean sea level; about 1 mile south of Hecker, in Monroe County, Illinois; approximately 900 feet south and 1,650 feet east of the northwest corner of sec. 9, T. 3 S., R. 8 W.; USGS New Athens West, Illinois, topographic quadrangle; lat. 38 degrees 17 minutes 32 seconds N. and long. 89 degrees 59 minutes 35 seconds W., NAD 27:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; many very fine roots; common fine irregular strong brown (7.5YR 4/6) masses of iron-manganese accumulation and few medium rounded black (7.5YR 2.5/1) iron-manganese nodules; neutral; abrupt smooth boundary.

Eg—7 to 13 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak medium platy structure parting to weak fine granular; friable; common very fine roots; common fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; common fine irregular strong brown (7.5YR 4/6) masses of iron-manganese accumulation and few medium rounded black (7.5YR 2.5/1) iron-manganese nodules; neutral; clear smooth boundary.

Btng1—13 to 22 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; common very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine and medium prominent dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; common fine and medium irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation; slightly alkaline; clear smooth boundary.

Btng2—22 to 36 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; few fine prominent dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; common fine and medium irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation and few medium rounded black (7.5YR 2.5/1) iron-manganese nodules; few coarse irregular light gray (10YR 7/1) carbonate concretions; moderately alkaline; gradual smooth boundary.

Btng3—36 to 54 inches; gray (2.5Y 5/1) silty clay loam; weak medium subangular blocky structure; firm; few very fine roots; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few medium prominent dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; common fine and medium irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation; slightly alkaline; clear smooth boundary.

Cg—54 to 80 inches; gray (2.5Y 6/1) silt loam; massive; friable; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few medium irregular black (10YR 2/1) masses of iron-manganese accumulation; neutral.

Range in Characteristics

Depth to the base of soil development: 35 to 70 inches

Thickness of the loess: 80 inches or more

Texture of the particle-size control section: Averages between 27 and 35 percent clay and less than 7 percent sand

Depth to carbonates: Some pedons contain carbonates in the middle and lower parts of the argillic horizon and in horizons or strata below the argillic horizon.

Other features: Some pedons have a BCg horizon.

Ap or A horizon:

Hue—10YR

Value—3 or 4 (6 or 7 dry)

Chroma—1 or 2

Texture—silt loam

Eg horizon:

Hue—10YR

Value—4 to 6 (6 to 8 dry)

Chroma—1 or 2

Texture—silt loam

Btng horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—dominantly silty clay loam; silt loam in some subhorizons

Cg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 7

Chroma—1 or 2

Texture—silt loam or silty clay loam

657A—Burksville silt loam, 0 to 2 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Broad interfluves and nearly level summits

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Burksville and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Burksville soil
- Soils that contain more clay in the subsoil than the Burksville soil
- Soils that are more acid than the Burksville soil and contain less exchangeable sodium in the subsoil

Dissimilar soils:

- The somewhat poorly drained Coulterville soils in the more sloping landform positions
- The poorly drained Pierron soils intermingled with the Burksville soil

Caseyville Series

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

Typical Pedon

Caseyville silt loam, in a nearly level area in a cultivated field, at an elevation of about 580 feet above mean sea level; about 3 miles northwest of Millstadt, in St. Clair County, Illinois; approximately 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., NAD 27:

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) iron-manganese nodules with sharp boundaries; about 21 percent clay; 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 accumulation in the matrix; common fine and medium rounded black (7.5YR 2.5/1) iron-manganese nodules with sharp boundaries; about 20 percent clay; moderately acid; clear smooth boundary.

BE—12 to 16 inches; brown (10YR 5/3) silty clay loam; 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) iron-manganese nodules with sharp boundaries; about 28 percent clay; 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 2.5/0) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; about 32 percent clay; 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 2.5/0) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; about 31

percent clay; 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 2.5/0) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; about 30 percent clay; 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 2.5/0) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; about 24 percent clay; slightly acid; gradual smooth boundary.

Cg—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 iron-manganese accumulation with diffuse strong brown (7.5YR 5/6) boundaries; about 20 percent clay; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to 76 inches

Thickness of the loess: 80 inches or more

Texture of the particle-size control section: Averages between 27 and 35 percent clay and less than 7 percent sand

Depth to carbonates (if they occur): More than 60 inches

Other features: Pedons in undisturbed areas have an A horizon. This horizon is 2 to 5 inches thick and has value of 3 (5 dry). Some pedons have an EB horizon.

Ap horizon:

Hue—10YR

Value—4 to 6 (6 or 7 dry)

Chroma—1 or 2
Texture—silt loam

E or Eg horizon:

Hue—10YR
Value—4 to 6 (6 or 7 dry)
Chroma—1 to 3
Texture—silt loam

Bt horizon and BC horizon (if it occurs):

Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 4
Texture—dominantly silty clay loam; silt loam in the lower part in some pedons

Cg or C horizon (if it occurs):

Hue—7.5YR, 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: Loess-covered till plains
Position on the landform: Nearly level summits

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Dominant parent material: Loess
Flooding: None

Map Unit Composition

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

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Caseyville soil
- Soils that contain more clay in the subsoil than the Caseyville soil
- Soils that are moderately eroded; near the edge of the mapped areas

Dissimilar soils:

- The poorly drained Weir soils at the head of drainageways and in slight depressions
- The moderately well drained Winfield soils in the more sloping landform positions

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

Setting

Landform: Loess-covered till plains
Position on the landform: Gently sloping summits

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Dominant parent material: Loess
Flooding: None

Map Unit Composition

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

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Caseyville soil
- Soils that contain more clay in the subsoil than the Caseyville soil
- Soils that are moderately eroded; near the edge of the mapped areas

Dissimilar soils:

- The poorly drained Weir soils at the head of drainageways and in slight depressions
- The moderately well drained Winfield soils in the more sloping landform positions

Coffeen Series

Taxonomic classification: Coarse-silty, mixed, superactive, mesic Fluvaquentic Hapludolls

Typical Pedon

Coffeen silt loam, in a nearly level area in a cultivated field, at an elevation of about 390 feet above mean sea level; about 0.5 mile southeast of Modoc, in Randolph County, Illinois; Illinois State Plane Coordinates 503,200 feet north and 538,150 feet east (Illinois West Zone), T. 5 S., R. 8 W.; USGS Prairie du Rocher, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 02 minutes 55 seconds N. and long. 90 degrees 02 minutes 05 seconds W., NAD 27:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; slightly acid; abrupt smooth boundary.
Bw—10 to 21 inches; brown (10YR 4/3) silt loam;

moderate medium granular structure; friable; slightly acid; clear smooth boundary.

Bg1—21 to 26 inches; dark grayish brown (10YR 4/2) silt loam; weak medium subangular blocky structure; friable; few medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Bg2—26 to 33 inches; grayish brown (10YR 5/2) silt loam; moderate medium subangular blocky structure; friable; dark grayish brown (10YR 4/2) faces of peds; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Bg3—33 to 39 inches; grayish brown (10YR 5/2) silt loam; weak medium subangular blocky structure; friable; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

BCg—39 to 47 inches; light brownish gray (10YR 6/2) silt loam; weak medium subangular blocky structure; friable; common fine distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; slightly acid; gradual smooth boundary.

Cg—47 to 60 inches; gray (10YR 6/1) silt loam; massive; friable; many fine distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; slightly acid.

Range in Characteristics

Depth to the base of the cambic horizon: 30 to 64 inches; mainly 30 to 50 inches

Thickness of the mollic epipedon: 10 to 18 inches

Texture of the particle-size control section: Averages between 12 and 18 percent clay and less than 15 fine sand or coarser

Other features: Some pedons have an AB horizon. Some pedons have a buried soil below a depth of 50 inches.

Ap or A horizon:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 to 3

Texture—silt loam

Bw or Bg horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 or 3

Texture—silt loam; thin lenses of loam or sandy loam in some pedons

Cg or C horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 7

Chroma—1 to 3

Texture—silt loam or stratified silt loam, loam, or sandy loam

3428A—Coffeen silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Silty alluvium

Flooding frequency: Frequent

Map Unit Composition

Coffeen and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a light-colored surface layer
- Soils that contain more clay throughout than the Coffeen soil
- Soils that contain more sand in the substratum than the Coffeen soil

Dissimilar soils:

- The poorly drained Beaucoup soils in the lower landform positions

Colp Series

Taxonomic classification: Fine, smectitic, mesic Aquertic Chromic Hapludalfs

Typical Pedon

Colp silt loam, in a nearly level area in a cultivated field, at an elevation of about 420 feet above mean sea level; about 4 miles south and 2 miles east of Hecker, in Monroe County, Illinois; approximately 1,095 feet east and 110 feet north of the center of sec. 27, T. 3 S., R. 8 W.; USGS Red Bud, Illinois, topographic quadrangle; lat. 38 degrees 14 minutes 38 seconds N. and long. 89 degrees 58 minutes 02 seconds W., NAD 27:

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular

- structure; friable; common very fine roots; few fine continuous tubular pores; few fine and medium rounded black (5YR 2.5/1) iron-manganese nodules with sharp boundaries; 21 percent clay; neutral; abrupt smooth boundary.
- E—8 to 12 inches; light brownish gray (10YR 6/2) silt loam, very pale brown (10YR 8/2) dry; weak fine subangular blocky structure parting to moderate fine granular; friable; few very fine roots; few very fine continuous tubular pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine and medium rounded black (5YR 2.5/1) iron-manganese nodules with sharp boundaries; 19 percent clay; moderately acid; abrupt smooth boundary.
- 2Bt1—12 to 17 inches; yellowish brown (10YR 5/4) silty clay; weak fine prismatic structure parting to moderate fine angular blocky; firm; few very fine roots; common prominent very pale brown (10YR 8/2) (dry) clay depletions on faces of peds; many faint brown (10YR 5/3) clay films 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 (5YR 2.5/1) iron-manganese nodules with sharp boundaries; 46 percent clay; very strongly acid; clear smooth boundary.
- 2Bt2—17 to 23 inches; yellowish brown (10YR 5/4) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; very firm; few very fine roots; many faint brown (10YR 5/3) clay films on faces of peds; few fine distinct light brownish gray (10YR 6/2) iron depletions; common fine and medium rounded black (5YR 2.5/1) iron-manganese nodules with sharp boundaries; 48 percent clay; very strongly acid; gradual smooth boundary.
- 2Bt3—23 to 30 inches; yellowish brown (10YR 5/4) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; very firm; few very fine roots; common faint brown (10YR 5/3) clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions and few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine and medium rounded black (5YR 2.5/1) iron-manganese nodules with sharp boundaries; 47 percent clay; very strongly acid; gradual smooth boundary.
- 2Bt4—30 to 37 inches; yellowish brown (10YR 5/4) clay; moderate medium prismatic structure parting to moderate medium angular blocky; very firm; few very fine roots; common faint brown (10YR 5/3) clay films on faces of peds; common fine distinct 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 rounded dark reddish brown (5YR 2.5/2) iron-manganese nodules with clear yellowish red (5YR 4/6) boundaries; 61 percent clay; very strongly acid; clear smooth boundary.
- 2Bt5—37 to 48 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of peds; few prominent black (N 2.5/0) iron-manganese coatings lining root channels; common medium faint light brownish gray (10YR 6/2) iron depletions and many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine and medium rounded dark reddish brown (5YR 2.5/2) iron-manganese nodules with clear yellowish red (5YR 4/6) boundaries; 37 percent clay; very strongly acid; abrupt smooth boundary.
- 2Btg1—48 to 55 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak medium prismatic structure parting to moderate medium angular blocky; friable; few very fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds and lining root channels; few prominent black (N 2.5/0) iron-manganese coatings lining root channels; common fine and 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) iron-manganese nodules with clear yellowish red (5YR 4/6) boundaries on vertical faces of peds; 36 percent clay; moderately acid; abrupt smooth boundary.
- 2Btg2—55 to 70 inches; light brownish gray (2.5Y 6/2) silty clay; weak medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds and lining root channels; common fine and medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; many fine and medium irregular black (5YR 2.5/1) iron-manganese nodules with clear yellowish red (5YR 4/6) boundaries on vertical faces of peds; 43 percent clay; moderately acid; clear smooth boundary.
- 2BCtkg—70 to 80 inches; grayish brown (2.5Y 5/2) silty clay; weak medium prismatic structure parting to moderate fine and medium angular blocky; very firm; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common

prominent reddish brown (5YR 4/4) iron-manganese coatings lining channels and pores; few fine and medium irregular black (5YR 2.5/1) iron-manganese nodules with clear yellowish red (5YR 4/6) boundaries; common fine and medium irregular white (10YR 8/1) carbonate nodules with sharp boundaries; slightly effervescent; slightly alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 50 to more than 80 inches

Thickness of the loess or other silty material: 0 to 20 inches

Texture of the particle-size control section: Averages between 35 and 50 percent clay and less than 15 percent sand; 50 to about 60 percent clay in some subhorizons

Depth to carbonates: Carbonates typically occur in the C horizon, but they are in the lower part of the argillic horizon in some pedons.

Other features: Some pedons have a thin BE or Bt horizon of silt loam or silty clay loam. This horizon formed in the upper silty material.

Ap or A horizon:

Hue—10YR

Value—4 or 5 (6 or 7 dry); 3 (5 dry) in some thin A horizons

Chroma—1 to 4

Texture—silt loam or silty clay loam

E horizon (if it occurs):

Hue—10YR

Value—5 or 6 (6 to 8 dry)

Chroma—2 to 4

Texture—silt loam

2Bt horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6

Texture—silty clay loam or silty clay; some subhorizons are clay, and some pedons contain thin strata of silt loam, loam, or fine sandy loam in the lower part

2Btg horizon and 2BCg horizon (if it occurs):

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay loam or silty clay; some subhorizons are clay, and some pedons contain thin strata of silt loam, loam, or fine sandy loam in the lower part

2C or 2Cg horizon (if it occurs):

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—1 to 8

Texture—silty clay loam or silty clay; stratified with silt loam or fine sandy loam in some pedons

2122B—Colp-Orthents-Urban land complex, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Lake plains

Component Properties and Qualities

Colp

Drainage class: Moderately well drained

Dominant parent material: Clayey lacustrine sediments

Flooding frequency: Rare

Orthents

- Orthents consist of soil materials that have been altered by extensive leveling, cutting, and filling. Individual soil horizons are generally no longer distinguishable.

Urban land

- Urban land consists of areas covered by surfaces or structures that so obscure or alter the soils that identification of the soil series is not possible. Urban land consists mostly of shopping centers, industrial plants, other commercial sites, and streets and parking lots.

Map Unit Composition

Colp and similar soils: 40 percent

Orthents: 30 percent

Urban land: 20 percent

Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Colp soil
- Areas that have slopes of more than 5 percent or less than 2 percent
- Areas of soils that are eroded

Dissimilar components:

- The somewhat poorly drained Hurst soils in the lower landform positions

7122B—Colp silt loam, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Lake plains

Position on the landform: Treads

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Clayey lacustrine sediments

Flooding frequency: Rare

Map Unit Composition

Colp and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Colp soil
- Soils that have slopes of more than 5 percent or less than 2 percent
- Soils that are moderately eroded; near the edge of the mapped areas

Dissimilar soils:

- The somewhat poorly drained Hurst soils in the lower landform positions

7122C—Colp silty clay loam, 5 to 10 percent slopes, severely eroded, rarely flooded

Setting

Landform: Lake plains

Position on the landform: Risers

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Clayey lacustrine sediments

Flooding frequency: Rare

Map Unit Composition

Colp and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Colp soil
- Soils that have slopes of more than 10 percent or less than 5 percent
- Areas of soils that are less eroded than the Colp soil

Dissimilar soils:

- The somewhat poorly drained Hurst soils in the lower landform positions

Coulterville Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aeric Epiaqualfs

Typical Pedon

Coulterville silt loam, in an eroded area on a southeast-facing, concave slope of 3 percent, in a cultivated field; at an elevation of about 467 feet above mean sea level; about 0.5 mile southwest of Hecker, in Monroe County, Illinois; approximately 1,320 feet west and 2,100 feet north of the southeast corner of sec. 5, T. 3 S., R. 8 W.; USGS Paderborn, Illinois, topographic quadrangle; lat. 38 degrees 18 minutes 02 seconds N. and long. 90 degrees 00 minutes 11 seconds W., NAD 27:

Ap—0 to 7 inches; mixed dark grayish brown (10YR 4/2) and brown (10YR 4/3) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common very fine and few fine roots; few fine rounded yellowish red (5YR 5/8) masses of iron-manganese accumulation and common fine rounded very dark gray (7.5YR 3/1) iron-manganese nodules; 2 percent exchangeable sodium; 19 percent clay; moderately acid; abrupt smooth boundary.

B_{tn}—7 to 11 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; common very fine and few fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine faint grayish brown (10YR 5/2) iron depletions and common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; few fine rounded yellowish red (5YR 5/8) masses of iron-manganese accumulation and few fine rounded very dark gray (7.5YR 3/1) iron-manganese nodules; 5 percent exchangeable sodium; 36 percent clay; neutral; clear smooth boundary.

B_{tn}g₁—11 to 15 inches; gray (5Y 6/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine and few fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; few fine rounded yellowish red (5YR 5/8) masses of iron-manganese accumulation and common fine

rounded very dark gray (7.5YR 3/1) iron-manganese nodules; 9 percent exchangeable sodium; 32 percent clay; neutral; clear smooth boundary.

Btng2—15 to 23 inches; gray (5Y 6/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots; common faint light gray (10YR 7/1) (dry) clay depletions on faces of peds, common distinct grayish brown (10YR 5/2) clay films on faces of peds, and few distinct very dark grayish brown (10YR 3/2) organo-clay films in root channels; common medium prominent brown (7.5YR 4/4) masses of iron accumulation in the matrix; common fine and medium rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation and common fine rounded black (10YR 2/1) iron-manganese nodules; very dark grayish brown (10YR 3/2) vertical krotovinas; 12 percent exchangeable sodium; 29 percent clay; slightly effervescent throughout; moderately alkaline; clear smooth boundary.

Btkng1—23 to 28 inches; gray (5Y 5/1) silt loam; moderate medium subangular blocky structure; friable; few very fine roots; common faint light gray (10YR 7/1) (dry) clay depletions on faces of peds, few faint grayish brown (10YR 5/2) clay films on faces of peds, and few distinct very dark grayish brown (10YR 3/2) organo-clay films in root channels; common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; common medium irregular strong brown (7.5YR 4/6) iron-manganese nodules and few medium irregular carbonate nodules; 14 percent exchangeable sodium; 24 percent clay; slightly effervescent; moderately alkaline; clear smooth boundary.

Btkng2—28 to 33 inches; light olive gray (5Y 6/2) silt loam; weak medium subangular blocky structure; friable; few very fine roots; common faint light gray (10YR 7/1) (dry) clay depletions on faces of peds, few faint grayish brown (10YR 5/2) clay films on faces of peds, and few prominent black (10YR 2/1) iron-manganese stains on faces of peds; common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; common fine and medium irregular dark brown (7.5YR 3/3) masses of iron-manganese accumulation and few medium irregular carbonate nodules; 10 percent exchangeable sodium; 24 percent clay; slightly effervescent; moderately alkaline; clear smooth boundary.

Btkn—33 to 39 inches; olive (5Y 5/3) silt loam; weak

medium subangular blocky structure; friable; few faint grayish brown (10YR 5/2) clay films on faces of peds; common medium distinct light brownish gray (2.5Y 6/2) iron depletions and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; many medium irregular dark brown (7.5YR 3/2) masses of iron-manganese accumulation and few medium irregular carbonate nodules; 8 percent exchangeable sodium; 21 percent clay; slightly effervescent; moderately alkaline; clear smooth boundary.

BCkn—39 to 56 inches; brown (10YR 5/3) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few prominent black (10YR 2/1) manganese stains on vertical faces of peds and in root channels; common prominent white (10YR 8/1) carbonate coatings on vertical faces of peds; common medium distinct light brownish gray (2.5Y 6/2) iron depletions and common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; common fine and medium irregular dark brown (7.5YR 3/2) masses of iron-manganese accumulation; 6 percent exchangeable sodium; 19 percent clay; slightly effervescent; moderately alkaline; clear smooth boundary.

Ckn—56 to 68 inches; brown (10YR 5/3) silt loam; massive; friable; few prominent white (10YR 8/1) carbonate coatings along faces of cleavage planes; common medium prominent strong brown (7.5YR 4/6) and common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium rounded black (7.5YR 2.5/1) iron-manganese nodules; 5 percent exchangeable sodium; 16 percent clay; slightly effervescent; moderately alkaline; gradual smooth boundary.

2C—68 to 80 inches; brown (7.5YR 5/4) silt loam; massive; friable; few fine tubular pores; common medium prominent light brownish gray (2.5Y 6/2) iron depletions and common fine distinct strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; few fine rounded dark brown (7.5YR 3/3) masses of iron-manganese accumulation; about 10 percent sand; slightly alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 35 to 70 inches

Thickness of the loess: 50 to more than 80 inches; some severely eroded pedons have less than 50 inches of loess

Texture of the particle-size control section: Averages between 27 and 35 percent clay and less than 7 percent sand

Depth to carbonates (if they occur): Carbonates are in the middle and lower parts of the argillic horizon and in strata below the argillic horizon.

Other features: Some pedons have a 2Bt or 2BC horizon. This horizon formed in silty erosional sediments that contain 5 to 30 percent sand. Some pedons have a C horizon that is underlain by buried horizons of older soils. These buried horizons are commonly silt loam, loam, silty clay loam, or clay loam.

Ap or A horizon:

Hue—10YR

Value—3 or 4 (5 or 6 dry)

Chroma—2 or 3

Texture—silt loam or silty clay loam

E horizon (if it occurs):

Hue—10YR

Value—4 to 6 (6 to 8 dry)

Chroma—2 or 3

Texture—silt loam

Bt horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 4

Texture—dominantly silty clay loam; silt loam or silty clay in some subhorizons

BC horizon (if it occurs):

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 3

Texture—silt loam or silty clay loam

C or 2C horizon:

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—4 to 7

Chroma—1 to 4

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

878C3—Coulterville-Grantfork silty clay loams, 5 to 10 percent slopes, severely eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Erosional side slopes

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Coulterville—loess and the underlying silty pedisegment; Grantfork—loamy pedisegment and the underlying glacial till

Flooding: None

Map Unit Composition

Coulterville and similar soils: 50 percent

Grantfork and similar soils: 40 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a natric horizon
- Areas of soils that are less eroded than the Coulterville and Grantfork soils
- Soils that have slopes of more than 10 percent or less than 5 percent

Dissimilar soils:

- The somewhat poorly drained Wakeland soils on narrow flood plains
- The well drained Hickory soils on the steeper side slopes

880B2—Coulterville-Darmstadt silt loams, 2 to 5 percent slopes, eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Summits and the upper end of small drainageways

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Loess; or loess and the underlying silty pedisegment

Flooding: None

Map Unit Composition

Coulterville and similar soils: 50 percent

Darmstadt and similar soils: 40 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that do not have a concentration of exchangeable sodium in the subsoil
- Areas of soils that are severely eroded
- Soils that have slopes of more than 5 percent or less than 2 percent

Dissimilar soils:

- The somewhat poorly drained Wakeland soils on narrow flood plains

Cowden Series

Taxonomic classification: Fine, smectitic, mesic Mollic Albaqualfs

Typical Pedon

Cowden silt loam, in a nearly level area in a cultivated field, at an elevation of about 665 feet above mean sea level; about 2 miles northwest of Butler, in 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 55 seconds N. and long. 89 degrees 33 minutes 18 seconds W., NAD 27:

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-manganese accumulation in the matrix; 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-manganese accumulation in the matrix; 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) masses of iron accumulation in the matrix; common fine irregular dark brown (10YR 3/3) masses of iron-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 few fine prominent

yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular black (10YR 2/1) iron-manganese nodules with sharp boundaries throughout; 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) and dark reddish brown (5YR 3/4) iron-manganese nodules with sharp boundaries throughout; 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) iron-manganese nodules with clear boundaries and strong brown (7.5YR 5/6) surfaces throughout; slightly acid; gradual smooth boundary.

BCg—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) organic coatings 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) iron-manganese nodules with clear boundaries and strong brown (7.5YR 4/6) surfaces throughout; 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) organic coatings 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) iron-manganese nodules with diffuse boundaries and

yellowish red (5YR 5/6) surfaces throughout; 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) organic coatings 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) and yellowish red (5YR 4/6) iron-manganese nodules with clear boundaries throughout; about 15 percent sand and 2 percent pebbles; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to 65 inches

Thickness of the loess: 55 to about 80 inches

Content of clay in the particle-size control section:

Averages between 35 and 42 percent; some pedons have one or more thin subhorizons that have as much as 45 percent clay

Other features: Some pedons have a B/E horizon. This horizon is less than 3 inches thick.

Ap or A horizon:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 or 2

Texture—silt loam

Eg horizon:

Hue—10YR

Value—4 to 6 (6 or 7 dry)

Chroma—1 or 2

Texture—silt loam

Btg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—typically silty clay loam; some subhorizons are silty clay, and the lower part is silt loam in some pedons

Cg horizon and BCg horizon (if it occurs):

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silt loam

2Cg horizon and 2Ab or 2Bb horizon (if it occurs):

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

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

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

Setting

Landform: Loess-covered till plains

Position on the landform: Broad interfluves

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Loess; or loess and the underlying silty pedisodiment

Flooding: None

Map Unit Composition

Cowden and similar soils: 50 percent

Piasa and similar soils: 40 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a thicker dark surface layer
- Soils that do not have a subsurface layer
- Soils that contain less clay in the subsoil

Dissimilar soils:

- The somewhat poorly drained Coulterville and Darmstadt soils in the higher landform positions
- Small areas of depressional soils that remain wet for periods that extend into the growing season

Darmstadt Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Albic Natraqualfs

Map units in which this series occurs: 880B2, 882B

Typical Pedon

Darmstadt silt loam, on a nearly level summit in a cultivated field, at an elevation of about 470 feet above mean sea level; about 2 miles south of Smithton, in St. Clair County, Illinois; approximately 1,202 feet west and 84 feet south of the northeast corner of sec. 9, T. 2 S., R. 8 W.; USGS Freeburg, Illinois, topographic quadrangle; lat. 38 degrees 22 minutes 52 seconds N. and long. 89 degrees 59 minutes 07 seconds W., NAD 27:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak

- thick platy structure parting to weak very fine granular; friable; many very fine roots; few fine continuous tubular pores; few fine rounded black (10YR 2/1) iron-manganese nodules with sharp boundaries; 1 percent exchangeable sodium; neutral; abrupt smooth boundary.
- E—8 to 11 inches; light brownish gray (10YR 6/2) and grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak thick platy structure parting to weak fine subangular blocky; friable; common very fine roots; few fine constricted tubular pores; many fine and medium rounded black (10YR 2/1) iron-manganese nodules with sharp boundaries throughout; 4 percent exchangeable sodium; neutral; abrupt smooth boundary.
- Btn1—11 to 16 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; firm; many very fine roots; few faint grayish brown (10YR 5/2) clay films on faces of peds; common medium faint grayish brown (10YR 5/2) iron depletions and common medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation; few medium rounded black (7.5YR 2.5/1) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; 7 percent exchangeable sodium; very strongly acid; gradual smooth boundary.
- Btn2—16 to 21 inches; pale brown (10YR 6/3) silty clay loam; moderate medium prismatic structure parting to strong medium angular blocky; firm; common very fine roots; common distinct gray (10YR 5/1) clay films on faces of peds; many fine faint grayish brown (10YR 5/2) iron depletions and many fine distinct brownish yellow (10YR 6/6) and many fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation and few medium rounded black (7.5YR 2.5/1) iron-manganese nodules with clear boundaries and strong brown (7.5YR 4/6) surfaces throughout; 12 percent exchangeable sodium; moderately acid; gradual smooth boundary.
- Btn3—21 to 27 inches; pale brown (10YR 6/3) and light brownish gray (10YR 6/2) silty clay loam; moderate coarse prismatic structure; firm; few very fine roots; few distinct gray (10YR 5/1) clay films on faces of peds; many coarse prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few medium irregular very dark brown (7.5YR 2.5/2) masses of iron-manganese accumulation with diffuse boundaries and strong brown (7.5YR 5/6) surfaces throughout; 17 percent exchangeable sodium; slightly acid; gradual smooth boundary.
- Btng1—27 to 35 inches; light brownish gray (10YR 6/2) silty clay loam; weak coarse prismatic structure; firm; few very fine roots; common fine vesicular pores; few distinct gray (10YR 5/1) clay films on vertical faces of peds and few distinct black (10YR 2/1) and very dark gray (10YR 3/1) organo-clay films lining root channels and pores; few medium faint dark gray (10YR 4/1) iron depletions and few medium distinct dark yellowish brown (10YR 4/4) and light yellowish brown (10YR 6/4) masses of iron accumulation in the matrix; common coarse irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 4/6) boundaries; 20 percent exchangeable sodium; neutral; clear smooth boundary.
- Btng2—35 to 39 inches; light gray (10YR 7/1) silty clay loam; weak coarse prismatic structure; friable; few very fine roots; few very fine vesicular pores; few distinct gray (10YR 5/1) clay films on vertical faces of peds; few coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few medium irregular black (7.5YR 2.5/1) and common coarse irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation in the matrix; 25 percent exchangeable sodium; slightly alkaline; abrupt smooth boundary.
- Cng1—39 to 44 inches; light gray (10YR 7/1) silt loam; massive; friable; few very fine roots; few very fine vesicular pores; many coarse prominent yellowish brown (10YR 5/6 and 5/8) masses of iron accumulation in the matrix; common medium and coarse irregular black (7.5YR 2.5/1) and strong brown (7.5YR 5/6) masses of iron-manganese accumulation; few medium irregular white (10YR 8/1) carbonate nodules throughout; 25 percent exchangeable sodium; slightly effervescent; slightly alkaline; abrupt smooth boundary.
- Cng2—44 to 62 inches; light gray (10YR 7/1) silt loam; massive; friable; few fine tubular and vesicular pores; few distinct very dark grayish brown (10YR 3/2) organo-clay films lining root channels and pores; many coarse prominent yellowish brown (10YR 5/6 and 5/8) masses of iron accumulation in the matrix; few medium irregular black (7.5YR 2.5/1) and many medium and coarse irregular strong brown (7.5YR 5/6) masses of iron-

manganese accumulation; about 25 percent exchangeable sodium; slightly effervescent; moderately alkaline; gradual smooth boundary.

Cg—62 to 80 inches; light gray (10YR 7/1) silt loam; massive; friable; few distinct very dark grayish brown (10YR 3/2) organo-clay films lining root channels; many coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine irregular black (7.5YR 2.5/1) and common medium irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation; moderately alkaline.

Range in Characteristics

Depth to the base of the natric horizon: 30 to 60 inches; typically 35 to 50 inches

Texture of the particle-size control section: Averages between 27 and 35 percent clay and less than 10 percent sand; the maximum clay content in any subhorizon is 42 percent

Other features: In some eroded areas, the E horizon has been mixed into the Ap horizon. Some pedons have a Bg, BC, 2Bt, 2Bg, or 2BC horizon in the lower part of the solum. Some pedons have 2Ab, 2Btb, and/or 2C horizons below a depth of 45 inches.

Ap or A horizon:

Hue—10YR
Value—3 to 5 (5 or 6 dry)
Chroma—2 or 3
Texture—silt loam

E horizon:

Hue—10YR
Value—5 or 6 (6 to 8 dry)
Chroma—2
Texture—silt loam

Btn or Btn g horizon:

Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 to 6
Texture—dominantly silty clay loam; thin subhorizons of silty clay; grades to silt loam in the lower part in some pedons

Cg horizon:

Hue—10YR, 2.5Y, or 5Y
Value—5 to 7
Chroma—1 or 2
Texture—silt loam, silty clay loam, clay loam, or loam

Darwin Series

Taxonomic classification: Fine, smectitic, mesic
Fluvaquentic Vertic Endoaquolls

Typical Pedon

Darwin silty clay, on a nearly level flood plain in a cultivated field, at an elevation of about 423 feet above mean sea level; about 1 mile east of Mitchell, in Madison County, Illinois; approximately 1,280 feet north and 60 feet east of the southwest corner of sec. 25, T. 4 N., R. 9 W.; USGS Wood River, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 45 minutes 52 seconds N. and long. 90 degrees 03 minutes 24 seconds W., NAD 27:

Ap1—0 to 3 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; moderate medium granular structure; firm; many very fine and few fine roots; neutral; abrupt smooth boundary.

Ap2—3 to 10 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; strong fine and medium angular blocky structure; very firm; common very fine and few fine roots; few fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation; neutral; abrupt smooth boundary.

AB—10 to 16 inches; very dark gray (10YR 3/1) silty clay, dark gray (10YR 4/1) dry; moderate fine and medium angular blocky structure; very firm; common very fine and few fine roots; common faint very dark gray (10YR 3/1) pressure faces on faces of peds; few fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation; slightly acid; clear smooth boundary.

Bg1—16 to 28 inches; dark gray (2.5Y 4/1) silty clay, weak medium prismatic structure parting to moderate fine and medium angular blocky; very firm; common very fine and few fine roots; many faint dark gray (2.5Y 4/1) pressure faces on faces of peds; common fine distinct olive brown (2.5Y 4/4) masses of iron accumulation in the matrix; few fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation; slightly acid; gradual smooth boundary.

Bg2—28 to 40 inches; dark gray (2.5Y 4/1) silty clay; moderate medium prismatic structure parting to strong fine and medium angular blocky; very firm; few very fine roots; many distinct dark gray (2.5Y 4/1) pressure faces on faces of peds; few fine distinct olive brown (2.5Y 4/4) masses of iron accumulation in the matrix; few fine rounded strong brown (7.5YR 4/6) masses of iron-

manganese accumulation; slightly acid; gradual smooth boundary.

Bg3—40 to 52 inches; dark gray (5Y 4/1) silty clay; moderate medium prismatic structure parting to moderate fine and medium angular blocky; very firm; few very fine roots; many distinct dark gray (5Y 4/1) pressure faces on faces of peds; common fine prominent yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; few fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation; slightly acid; gradual smooth boundary.

Bg4—52 to 62 inches; dark gray (5Y 4/1) silty clay; moderate coarse prismatic structure parting to moderate medium and coarse angular blocky; very firm; few very fine roots; many distinct dark gray (5Y 4/1) pressure faces on faces of peds; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation; neutral; gradual smooth boundary.

BCg—62 to 69 inches; gray (5Y 5/1) silty clay loam; weak coarse prismatic structure; firm; few very fine roots; common distinct very dark gray (2.5Y 3/1) organo-clay films on vertical faces of peds; common medium prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; common fine and medium rounded black (10YR 2/1) iron-manganese nodules with sharp boundaries; neutral; clear smooth boundary.

Cg—69 to 80 inches; olive gray (5Y 5/2) silty clay loam; friable; few prominent very dark gray (2.5Y 3/1) organo-clay films lining root channels and filling vesicular pores; many medium and coarse prominent yellowish brown (10YR 5/6) and common fine and medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; common fine and medium rounded black (10YR 2/1) iron-manganese nodules with sharp boundaries; neutral.

Range in Characteristics

Depth to the base of the cambic horizon: 40 to more than 60 inches

Thickness of the mollic epipedon: 10 to 24 inches; the mollic epipedon extends into the upper part of the Bg horizon in some pedons

Texture of the particle-size control section: Averages between 45 and 60 percent clay; averages less than 5 percent sand in the series control section

Depth to carbonates (if they occur): Carbonates are in

the lower part of the Bg horizon and in the Cg horizon.

Ap or A horizon:

Hue—10YR, 2.5Y, or N

Value—2 or 3 (4 or 5 dry)

Chroma—0 to 2

Texture—silty clay or silty clay loam

Bg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—typically silty clay or clay; some pedons have subhorizons in the lower part that are silty clay loam

Cg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—typically silty clay loam, silty clay, or clay; some pedons contain subhorizons of silt loam, and some pedons are stratified

2071L—Darwin-Aquents-Urban land complex, 0 to 2 percent slopes, occasionally flooded, long duration

Setting

Landform: Flood plains

Position on the landform: Backswamps

Component Properties and Qualities

Darwin

Drainage class: Poorly drained

Dominant parent material: Slackwater sediments

Flooding frequency: Occasional

Aquents

- Aquents consist of wet soil materials that have been altered by flooding and by extensive leveling, cutting, and filling. Individual soil horizons are generally no longer distinguishable.

Urban land

- Urban land consists of areas covered by surfaces or structures that so obscure or alter the soils that identification of the soil series is not possible. Urban land consists mostly of shopping centers, industrial plants, other commercial sites, and streets and parking lots.

Map Unit Composition

Darwin and similar soils: 40 percent
 Aquents: 30 percent
 Urban land: 20 percent
 Dissimilar components: 10 percent

Minor Components*Similar soils:*

- Soils that have a thinner dark surface layer than that of the Darwin soil
- Soils that contain more clay in the subsoil than the Darwin soil
- Soils that contain more sand in the substratum than the Darwin soil

Dissimilar components:

- The well drained Landes soils on natural levees

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

Landform: Flood plains
Position on the landform: Backswamps and old stream channels

Soil Properties and Qualities

Drainage class: Poorly drained
Dominant parent material: Slackwater sediments
Flooding frequency: Frequent

Map Unit Composition

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

Minor Components*Similar soils:*

- Soils that have a thinner dark surface layer than that of the Darwin soil
- Soils that contain more sand in the substratum than the Darwin soil
- Soils that contain less clay throughout than the Darwin soil

Dissimilar soils:

- The somewhat excessively drained Rocher soils on natural levees

8071L—Darwin silty clay, 0 to 2 percent slopes, occasionally flooded, long duration**Setting**

Landform: Flood plains
Position on the landform: Backswamps

Soil Properties and Qualities

Drainage class: Poorly drained
Dominant parent material: Slackwater sediments
Flooding frequency: Occasional

Map Unit Composition

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

Minor Components*Similar soils:*

- Soils that have a thinner dark surface layer than that of the Darwin soil
- Soils that contain more clay in the subsoil than the Darwin soil
- Soils that contain more sand in the substratum than the Darwin soil

Dissimilar soils:

- The well drained Landes soils on natural levees

Downsouth Series

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

Typical Pedon

Downsouth silt loam, on a northwest-facing slope of 3 percent, on a convex summit in a cultivated field, at an elevation of about 560 feet above mean sea level; about 1 mile south of Belleville along State Route 15, in St. Clair County, Illinois; approximately 600 feet south and 550 feet east of the northwest corner of sec. 19, T. 1 N., R. 8 W.; USGS French Village, Illinois, topographic quadrangle; lat. 38 degrees 31 minutes 30 seconds N. and long. 90 degrees 02 minutes 04 seconds W., NAD 27:

Ap—0 to 9 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 and medium continuous tubular

- pores; about 20 percent clay; neutral; abrupt smooth boundary.
- E—9 to 13 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate thick platy structure parting to moderate medium granular; friable; common very fine roots; common fine and medium continuous tubular pores; few distinct light gray (10YR 7/2) (dry) clay depletions and common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; about 22 percent clay; slightly acid; clear smooth boundary.
- Bt1—13 to 26 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine prismatic structure parting to strong fine subangular blocky; firm; common very fine roots; common fine and medium constricted tubular pores; few distinct light gray (10YR 7/2) (dry) clay depletions and many distinct dark brown (10YR 3/3) organo-clay films on faces of peds; few fine rounded strong brown (7.5YR 5/6) masses of iron-manganese accumulation; about 32 percent clay; moderately acid; clear smooth boundary.
- Bt2—26 to 38 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; firm; common very fine roots; few very fine and fine constricted tubular pores; many distinct dark brown (10YR 3/3) organo-clay films on faces of peds; few fine distinct 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 irregular very dark brown (7.5YR 2.5/2) masses of iron-manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; about 30 percent clay; slightly acid; gradual smooth boundary.
- Bt3—38 to 57 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; few very fine roots; few very fine and fine constricted tubular pores; common distinct brown (10YR 4/3) clay films on faces of peds; common fine faint light brownish gray (10YR 6/2) iron depletions and many fine and medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular very dark brown (7.5YR 2.5/2) masses of iron-manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; about 28 percent clay; slightly acid; gradual smooth boundary.
- BCt—57 to 65 inches; brown (10YR 5/3) silt loam; weak medium and coarse subangular blocky structure; friable; few very fine roots; few very fine and fine tubular and vesicular pores; few distinct brown (10YR 4/3) clay films on faces of peds and lining root channels and pores; many fine and medium faint light grayish brown (10YR 6/2) iron depletions and common fine and medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular very dark brown (7.5YR 2.5/2) masses of iron-manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; about 26 percent clay; neutral; gradual smooth boundary.
- CB—65 to 80 inches; pale brown (10YR 6/3) silt loam; massive; friable; few very fine roots; many very fine to medium tubular and vesicular pores; few distinct brown (10YR 4/3) clay films lining small root channels and pores and very few prominent very dark grayish brown (10YR 3/2) organo-clay films lining large root channels and pores; common fine and medium faint light grayish brown (10YR 6/2) iron depletions and many fine and medium distinct 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 iron-manganese accumulation with clear strong brown (7.5YR 4/6) boundaries; about 20 percent clay; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 42 to 70 inches

Thickness of the loess: 80 inches or more

Texture of the particle-size control section: Averages between 27 and 35 percent clay; content of sand is less than 7 percent throughout

Depth to carbonates (if they occur): More than 60 inches

Other features: Some pedons have an EB or a BE horizon.

Ap or A horizon (if it occurs):

Hue—10YR

Value—3 (5 dry) (Ap); 2 or 3 (4 or 5 dry) (A)

Chroma—2 or 3 (Ap); 1 or 2 (A)

Texture—silt loam

E horizon (if it occurs):

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 or 3

Texture—silt loam

Bt and BC horizons:

Hue—7.5YR, 10YR, or 2.5Y
 Value—4 to 6
 Chroma—3 to 6 (2 to 6 in the lower part)
 Texture—typically silty clay loam; silt loam in the lower part of some pedons

CB or C horizon:

Hue—7.5YR, 10YR, or 2.5Y
 Value—5 or 6
 Chroma—1 to 4
 Texture—silt loam

283B—Downsouth silt loam, 2 to 5 percent slopes

Setting

Landform: Loess-covered till plains
Position on the landform: Summits

Soil Properties and Qualities

Drainage class: Moderately well drained
Dominant parent material: Loess
Flooding: None

Map Unit Composition

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

Minor Components

Similar soils:

- Soils that have a mollic epipedon
- Soils that are somewhat poorly drained
- Area of soils that are eroded

Dissimilar soils:

- The poorly drained Mascoutah soils in depressions

283C2—Downsouth silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Loess-covered till plains
Position on the landform: Convex summits, shoulders, and backslopes

Soil Properties and Qualities

Drainage class: Moderately well drained
Dominant parent material: Loess
Flooding: None

Map Unit Composition

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

Minor Components

Similar soils:

- Soils that have a light-colored surface layer
- Soils that are well drained
- Areas of soils that are severely eroded

Dissimilar soils:

- The poorly drained Mascoutah soils in depressions
- The somewhat poorly drained Wakeland soils in small upland drainageways

Dozaville Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Fluventic Hapludolls

Typical Pedon

Dozaville silt loam, in a nearly level area in a cultivated field, at an elevation of about 385 feet above mean sea level; about 2 miles southwest of Prairie du Rocher, in Randolph County, Illinois; approximately 100 feet south of field lane and 160 feet east of Federal levee; USGS Prairie du Rocher, Illinois-Missouri, topographic quadrangle; UTM Zone 15, UTM Easting 752825, UTM Northing 4216342, NAD 83:

- Ap—0 to 9 inches; very dark brown (10YR 2/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many very fine roots; slightly acid; abrupt smooth boundary.
- A—9 to 16 inches; very dark brown (10YR 2/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many very fine roots; few fine vesicular pores; few distinct very dark brown (10YR 2/2) organic coatings lining root channels and pores; slightly acid; abrupt smooth boundary.
- Bw1—16 to 25 inches; brown (10YR 4/3) silt loam; moderate fine subangular blocky structure; friable; common very fine roots; common fine vesicular pores; common continuous distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; neutral; clear smooth boundary.
- Bw2—25 to 33 inches; brown (10YR 4/3) silt loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; common fine and medium vesicular pores; common continuous distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of

pedes and in pores; neutral; gradual smooth boundary.

Bw3—33 to 45 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; very friable; common very fine roots; few fine and medium vesicular pores; few patchy distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of pedes and in pores; neutral; gradual smooth boundary.

BC—45 to 60 inches; dark yellowish brown (10YR 4/4) very fine sandy loam; weak coarse subangular blocky structure; very friable; few very fine roots; few fine and medium vesicular pores; neutral; abrupt smooth boundary.

2C—60 to 80 inches; brown (10YR 5/3) fine sand; single grain; loose; neutral.

Range in Characteristics

Depth to the base of soil development: 35 to more than 80 inches

Thickness of the mollic epipedon: 10 to 24 inches

Depth to a buried soil (if it occurs): More than 60 inches

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

Other features: Some pedons have an AB or a BA horizon.

Ap and A horizons:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 to 3

Texture—silt loam

Bw horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 or 4

Texture—silt loam; loam or very fine sandy loam in thin subhorizons of some pedons

BC horizon (if it occurs):

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 or 4

Texture—silt loam, loam, or very fine sandy loam

2BC or 2C horizon (if it occurs):

Hue—7.5YR or 10YR

Value—3 to 6

Chroma—2 to 4

Texture—very fine sandy loam, fine sandy loam, loamy fine sand, loamy very fine sand, very fine sand, or fine sand

8674A—Dozaville silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Silty and sandy alluvium

Flooding frequency: Occasional

Map Unit Composition

Dozaville and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a thicker dark surface layer than that of the Dozaville soil
- Soils that contain less sand in the substratum than the Dozaville soil
- Soils that have a higher water table than that in the Dozaville soil

Dissimilar soils:

- The somewhat poorly drained Tice soils in the lower landform positions

Drury Series

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

Typical Pedon

Drury silt loam, in a gently sloping area in a cultivated field, at an elevation of about 465 feet above mean sea level; about 3 miles west of Maeystown, in Monroe County, Illinois; approximately 2,380 feet southeast of the intersection of Bluff Road and the railroad crossing and 820 feet northeast of the railroad tracks, parcel S. 701, C. 495, 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., NAD 27:

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; few fine continuous tubular pores; 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; few medium continuous tubular pores; many faint dark brown (10YR 3/3) organo-clay films on faces of peds and lining vertical tubular 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 fine continuous tubular pores; common faint dark brown (10YR 3/3) organo-clay films on faces of peds and lining vertical tubular 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 fine continuous tubular pores; common faint dark brown (10YR 3/3) organo-clay films on faces of peds and lining vertical tubular 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; common fine continuous tubular pores; few faint dark brown (10YR 3/3) organo-clay films on faces of peds and lining vertical tubular 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; common fine continuous tubular pores; few faint dark brown (10YR 3/3) organo-clay films on faces of peds and lining vertical tubular pores; neutral; gradual smooth boundary.

C1—43 to 70 inches; dark yellowish brown (10YR 4/4) silt loam; massive; very friable; few very fine and fine continuous tubular pores; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine rounded black (N 2.5/0) masses of iron-manganese accumulation; neutral; gradual smooth boundary.

C2—70 to 80 inches; dark yellowish brown (10YR 4/4) silt loam; massive; friable; few very fine continuous pores; few fine rounded black (N 2.5/0) masses of iron-manganese accumulation; neutral.

Range in Characteristics

Depth to the base of soil development: 26 to 45 inches; typically 30 to 40 inches

Content of clay in the particle-size control section:
Averages between 18 and 25 percent

Depth to a buried soil (if it occurs): More than 50 inches

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

Ap or A horizon:

Hue—10YR

Value—3 or 4 (4 to 6 dry)

Chroma—2 to 4

Texture—silt loam

E horizon (if it occurs):

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—3 or 4

Texture—silt loam

Bw horizon:

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:

Hue—10YR

Value—3 to 6

Chroma—2 to 4

Texture—silt loam; some pedons show evidence of stratification, most commonly below a depth of 45 inches; strata are loam, silt loam, and very fine sandy loam

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

Setting

Landform: Loess bluffs

Position on the landform: Footslopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Silty local alluvium

Flooding: None

Map Unit Composition

Drury and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Drury soil
- Soils that contain more clay in the subsoil than the Drury soil

- Soils that contain more sand in the substratum than the Drury soil

Dissimilar soils:

- The moderately well drained Arenzville soils along drainageways
- The well drained Raddle soils on the lower footslopes

536—Dumps

General Definition

- This map unit consists of nearly level to very steep piles of industrial refuse, mine spoil, and slag. The mine spoil consists of waste from coal mines. It is generally a few inches to several feet thick and supports no vegetation because of very strong acidity. The industrial refuse and slag piles consist of waste material from factories and do not support vegetation.

Map Unit Composition

Dumps: 90 percent

Dissimilar components: 10 percent

Minor Components

Dissimilar components:

- Areas of the silty or loamy Orthents, which support a minimal amount of vegetation; along the border of the Dumps

Dupo Series

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

Typical Pedon

Dupo silt loam, on a nearly level flood plain in a cultivated field, at an elevation of about 390 feet above mean sea level; about 2.5 miles west of Modoc, in Randolph County, Illinois; Illinois State Plane Coordinates 506,150 feet north and 526,600 feet east (Illinois West Zone), T. 5 S., R. 9 W.; USGS Prairie Du Rocher, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 03 minutes 20 seconds N. and long. 90 degrees 04 minutes 28 seconds W., NAD 27:

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; very friable; many very fine and fine roots; few very fine continuous tubular pores; few fine rounded strong brown (7.5YR 5/6) masses of

iron-manganese accumulation; slightly alkaline; abrupt smooth boundary.

C1—9 to 17 inches; brown (10YR 5/3) silt loam; massive; very friable; common very fine and fine roots; few very fine continuous tubular pores; common fine faint grayish brown (10YR 5/2) iron depletions and common fine faint yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; few fine irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation; slightly alkaline; clear smooth boundary.

C2—17 to 25 inches; brown (10YR 5/3) silt loam; massive; very friable; common very fine and fine roots; common very fine and fine continuous tubular pores; common very dark grayish brown (10YR 3/2) wormcasts; many medium faint grayish brown (10YR 5/2) iron depletions and many medium faint dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; few fine irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation; neutral; abrupt smooth boundary.

2Ab1—25 to 39 inches; very dark gray (10YR 3/1) silty clay; moderate medium prismatic structure parting to strong fine angular blocky; very firm; few very fine and fine roots; common fine constricted tubular pores; common distinct dark yellowish brown (10YR 4/4) clay depletions on vertical faces of prisms; common fine distinct dark yellowish brown (10YR 4/4) and common medium prominent yellowish red (5YR 4/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

2Ab2—39 to 59 inches; very dark gray (10YR 3/1) silty clay; moderate coarse prismatic structure parting to moderate medium angular blocky; very firm; few very fine and fine roots; few fine and medium constricted tubular pores; few faint dark yellowish brown (10YR 4/4) clay depletions on vertical faces of prisms; common faint very dark gray (10YR 3/1) pressure faces on faces of peds; common fine distinct dark yellowish brown (10YR 4/4) and few medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; neutral; gradual smooth boundary.

2Bgb—59 to 75 inches; dark gray (10YR 4/1) silty clay; weak coarse prismatic structure; very firm; few very fine and fine roots; common distinct dark gray (10YR 4/1) pressure faces on faces of peds; common fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; slightly alkaline; gradual smooth boundary.

2Cg—75 to 80 inches; gray (2.5Y 5/1) clay; massive;

very firm; common shiny dark gray (2.5Y 4/1)
nonintersecting slickensides; common fine
medium prominent yellowish brown (10YR 5/6)
masses of iron accumulation in the matrix; neutral.

Range in Characteristics

Depth to a buried soil: 20 to 40 inches

Texture of the particle-size control section: Averages
between 10 and 18 percent clay in the silty
alluvium, between 35 and 55 percent clay in the
buried soils, and less than 10 percent sand
throughout the profile

Reaction: Neutral or slightly acid; ranges from
moderately acid to slightly alkaline in some layers
of some pedons

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

Ap or A horizon:

Hue—10YR

Value—4 or 5 (6 or 7 dry); some pedons in
undisturbed areas have strata with value of 3 (5
dry)

Chroma—1 to 3

Texture—silt loam; stratified in many pedons in
undisturbed areas

C horizon:

Hue—10YR

Value—4 to 6

Chroma—1 to 3

Texture—dominantly silt loam; stratified with thin
lenses of other textures in some pedons

2Ab horizon:

Hue—10YR or N; redoximorphic concentrations
with redder hue in some pedons

Value—2 to 4

Chroma—0 to 2

Texture—silty clay, clay, or silty clay loam

2Bgb and 2Cg horizons (if they occur):

Hue—10YR or 2.5Y

Value—3 to 6

Chroma—1 or 2; redoximorphic features with
higher chroma in some pedons

Texture—silty clay, clay, or silty clay loam

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

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Recent, light-colored, silty
alluvium overlying dark, clayey soils

Flooding frequency: Occasional

Map Unit Composition

Dupo and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain carbonates in the recent alluvium
- Soils that contain more clay in the recent alluvium
than the Dupo soil
- Soils that have a dark buried soil below a depth of
40 inches

Dissimilar soils:

- The moderately well drained Arenzville soils; in
positions closer to the bluff than those of the Dupo soil
- The poorly drained Birds soils in slight depressions

Edwardsville Series

Taxonomic classification: Fine-silty, mixed,
superactive, mesic Aquic Argiudolls

Typical Pedon

Edwardsville silt loam, in a gently sloping area in a
cultivated field, at an elevation of about 525 feet above
mean sea level; about 1 mile east of Bethalto, in
Madison County, Illinois; approximately 700 feet north
and 1,640 feet east of the southwest corner of sec. 5,
T. 5 N., R. 8 W.; USGS Bethalto, Illinois, topographic
quadrangle; lat. 38 degrees 54 minutes 30 seconds N.
and long. 90 degrees 00 minutes 54 seconds W., NAD
27:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2)
silt loam, dark grayish brown (10YR 4/2) dry; weak
fine granular structure; friable; common very fine
roots; about 23 percent clay; neutral; abrupt
smooth boundary.

A—8 to 15 inches; very dark grayish brown (10YR 3/2)
silt loam, dark grayish brown (10YR 4/2) dry;
moderate very fine and fine subangular blocky
structure parting to moderate fine granular; friable;
common very fine roots; about 24 percent clay;
neutral; clear smooth boundary.

Bt—15 to 20 inches; dark grayish brown (10YR 4/2)
silty clay loam; moderate fine and medium

subangular blocky structure; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine prominent yellowish brown (10YR 5/6) and few medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few fine rounded black (10YR 2/1) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; about 30 percent clay; neutral; clear smooth boundary.

Btg1—20 to 27 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) and common fine and medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few fine and medium rounded black (10YR 2/1) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; about 32 percent clay; slightly acid; clear smooth boundary.

Btg2—27 to 37 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; many fine and medium prominent yellowish brown (10YR 5/6) and common fine and medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; common fine and medium rounded black (10YR 2/1) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; about 30 percent clay; slightly acid; clear smooth boundary.

Btg3—37 to 49 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; few faint dark grayish brown (10YR 4/2) clay films on faces of peds and few distinct very dark grayish brown (10YR 3/2) organo-clay films lining root channels; many fine and medium prominent yellowish brown (10YR 5/6) and common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few fine and medium rounded black (10YR 2/1) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; about 28 percent clay; neutral; clear smooth boundary.

BCg—49 to 57 inches; light brownish gray (2.5Y 6/2) silt loam; weak medium prismatic structure; friable; few very fine roots; few distinct very dark grayish brown (10YR 3/2) and dark grayish brown (10YR 4/2) organo-clay films lining root channels;

common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few medium irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 5/6) boundaries; about 25 percent clay; neutral; gradual smooth boundary.

CBg—57 to 80 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; few distinct dark grayish brown (10YR 4/2) organo-clay films lining root channels; few fine 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 iron-manganese accumulation with diffuse strong brown (7.5YR 5/6) boundaries; about 22 percent clay; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 42 to 70 inches

Thickness of the loess: 80 inches or more

Thickness of the mollic epipedon: 12 to 24 inches; the mollic epipedon extends into the upper part of the B horizon in some pedons

Depth to carbonates (if they occur): More than 60 inches

Other features: Some pedons have an AB or a BA horizon.

Ap and A horizons:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 or 2

Texture—silt loam; silty clay loam in the lower part of the A horizon in some pedons

Bt or Btg horizon and BCg or BC horizon (if it occurs):

Hue—10YR or 2.5Y

Value—3 to 6

Chroma—2 to 4

Texture—silty clay loam or silt loam

CBg, Cg, or C horizon (if it occurs):

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—1 to 4

Texture—silt loam

384A—Edwardsville silt loam, 0 to 2 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Summits and interfluves

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Edwardsville and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a thinner dark surface layer than that of the Edwardsville soil
- Soils that contain more clay in the subsoil than the Edwardsville soil

Dissimilar soils:

- The well drained Wakenda soils in the higher landform positions
- The poorly drained Mascoutah soils in depressions

2384B—Edwardsville-Orthents-Urban land complex, 1 to 4 percent slopes

Setting

Landform: Loess-covered till plains

Component Properties and Qualities

Edwardsville

Drainage class: Somewhat poorly drained

Dominant parent material: Loess

Flooding: None

Orthents

- Orthents consist of soil materials that have been altered by extensive leveling, cutting, and filling. Individual soil horizons are generally no longer distinguishable.

Urban land

- Urban land consists of areas covered by surfaces or structures that so obscure or alter the soils that identification of the soil series is not possible. Urban land consists mostly of shopping centers, industrial plants, other commercial sites, and streets and parking lots.

Map Unit Composition

Edwardsville and similar soils: 40 percent

Orthents: 30 percent

Urban land: 20 percent

Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that have a thinner dark surface layer than that of the Edwardsville soil
- Soils that contain more clay in the subsoil than the Edwardsville soil

Dissimilar components:

- The well drained Wakenda soils in the higher landform positions
- The poorly drained Mascoutah soils in depressions

Elco Series

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

Typical Pedon

Elco silty clay loam, in a moderately sloping area in a cultivated field, at an elevation of about 505 feet above mean sea level; about 3.5 miles northwest of Marine, in Madison County, Illinois; approximately 1,920 feet east and 405 feet south of the northwest corner of sec. 6, T. 4 N., R. 6 W.; USGS Marine, Illinois, topographic quadrangle; lat. 38 degrees 49 minutes 40 seconds N. and long. 89 degrees 48 minutes 36 seconds W., NAD 27:

Ap—0 to 6 inches; brown (10YR 4/3) silty clay loam, light yellowish brown (10YR 6/4) dry; weak medium subangular blocky structure; firm; many very fine roots; few fine rounded black (10YR 2/1) masses of iron-manganese accumulation; moderately acid; clear smooth boundary.

Bt1—6 to 15 inches; brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; firm; common very fine roots; common distinct brown (10YR 5/3) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine rounded black (10YR 2/1) masses of iron-manganese accumulation; moderately acid; clear smooth boundary.

Bt2—15 to 24 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; common fine faint pale brown (10YR 6/3) iron depletions and common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine and medium rounded black (10YR 2/1) masses of iron-manganese accumulation; moderately acid; clear smooth boundary.

Bt3—24 to 33 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of pedis; common medium distinct light brownish gray (10YR 6/2) iron depletions and common medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; common fine and medium rounded black (10YR 2/1) masses of iron-manganese accumulation; slightly acid; clear smooth boundary.

2Bt4—33 to 42 inches; pale brown (10YR 6/3) clay loam; moderate medium prismatic structure; firm; few very fine roots; common distinct brown (10YR 5/3) clay films on faces of pedis; common coarse faint light brownish gray (10YR 6/2) iron depletions and common coarse prominent brownish yellow (10YR 6/8) masses of iron accumulation in the matrix; common fine and medium rounded black (10YR 2/1) masses of iron-manganese accumulation; slightly acid; clear smooth boundary.

2Btg1—42 to 54 inches; light brownish gray (10YR 6/2) clay loam; moderate medium prismatic structure; firm; few very fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of pedis; common fine prominent yellowish brown (10YR 5/8) and reddish brown (2.5YR 5/4) masses of iron accumulation in the matrix; common medium irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation; slightly acid; clear smooth boundary.

2Btg2—54 to 65 inches; light brownish gray (10YR 6/2) clay loam; moderate medium prismatic structure; firm; common distinct grayish brown (10YR 5/2) clay films on faces of pedis; common 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) and strong brown (7.5YR 4/6) masses of iron-manganese accumulation; neutral; clear smooth boundary.

2BCtg—65 to 72 inches; light brownish gray (10YR 6/2) clay loam; weak medium prismatic structure; firm; few faint grayish brown (10YR 5/2) clay films on faces of pedis; common 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) and strong brown (7.5YR 4/6) masses of iron-manganese accumulation; neutral; gradual smooth boundary.

2Cg—72 to 80 inches; light brownish gray (10YR 6/2) loam; massive; friable; common medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine and medium irregular black (7.5YR 2.5/1) and strong brown (7.5YR 4/6) masses of iron-manganese accumulation; neutral.

Range in Characteristics

Thickness of the loess: 20 to 40 inches

Depth to the base of soil development: 48 to more than 80 inches

Content of clay in the particle-size control section:
Averages between 25 and 35 percent

Reaction in the subsoil: Strongly acid to slightly alkaline

Ap or A horizon:

Hue—10YR

Value—4 or 5, 6 or 7 dry (Ap); 3 or 4, 4 to 6 dry (A)

Chroma—2 to 4 (Ap); 1 or 2 (A)

Texture—typically silt loam; silty clay loam in severely eroded areas

E horizon (if it occurs):

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—3 or 4

Texture—silt loam

Bt horizon:

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—typically silty clay loam; silt loam in one or more subhorizons of some pedons

2Bt and 2Btg horizons:

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 to 6

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

3Bt or 3Btg horizon (if it occurs):

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 to 6

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

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

Setting

Landform: Loess-covered till plains

Position on the landform: Erosional side slopes

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Loess overlying glacial till that contains a paleosol

Flooding: None

Map Unit Composition

Elco and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a thinner loess mantle than that of the Elco soil
- Soils that contain a concentration of exchangeable sodium in the subsoil
- Areas of soils that are less eroded than the Elco soil

Dissimilar soils:

- The somewhat poorly drained Atlas soils on the lower side slopes
- The somewhat poorly drained Orion and Wakeland soils on narrow flood plains

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

Setting

Landform: Loess-covered till plains

Position on the landform: Erosional side slopes

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Loess overlying glacial till that contains a paleosol

Flooding: None

Map Unit Composition

Elco and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a thinner loess mantle than that of the Elco soil

- Soils that contain a concentration of exchangeable sodium in the subsoil
- Areas of soils that are severely eroded

Dissimilar soils:

- The somewhat poorly drained Atlas soils on the lower side slopes
- The somewhat poorly drained Orion and Wakeland soils on narrow flood plains

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

Setting

Landform: Loess-covered till plains

Position on the landform: Erosional side slopes

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Loess overlying glacial till that contains a paleosol

Flooding: None

Map Unit Composition

Elco and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a thinner loess mantle than that of the Elco soil
- Soils that contain a concentration of exchangeable sodium in the subsoil
- Areas of soils that are less eroded than the Elco soil

Dissimilar soils:

- The somewhat poorly drained Atlas soils on the lower side slopes
- The somewhat poorly drained Orion and Wakeland soils on narrow flood plains

8831A—Fluvaquents, clayey, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Clayey alluvium

Flooding frequency: Occasional

Map Unit Composition

Fluvaquents and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain less clay throughout than the Fluvaquents
- Soils that contain more sand in the substratum than the Fluvaquents
- Soils that contain carbonates

Dissimilar soils:

- The well drained Landes soils in the higher landform positions

Fosterburg Series

Taxonomic classification: Fine, smectitic, mesic Vertic Argiaquolls

Map unit in which this series occurs: 885A

Typical Pedon

Fosterburg silt loam, in an area of Virden-Fosterburg silt loams, 0 to 2 percent slopes; in a slight depression in a cultivated field, at an elevation of about 510 feet above mean sea level; about 2.5 miles southeast of Summerville, in 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., NAD 27:

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) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; about 25 percent clay; 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) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; about 26 percent clay; 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) iron-

manganese nodules with clear strong brown (7.5YR 4/6) boundaries; about 30 percent clay; 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) masses of iron accumulation in the matrix; few fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation; 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; about 38 percent clay; 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) masses of iron accumulation in the matrix; few fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation and few medium rounded black (N 2.5/0) iron-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; about 37 percent clay; 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) masses of iron accumulation in the matrix; few fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation and few medium rounded black (N 2.5/0) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; about 34 percent clay; 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 pedis; many fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine irregular black (N 2.5/0) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; about 30 percent clay; 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 pedis; many medium prominent strong brown (10YR 5/6) masses of iron accumulation in the matrix; few fine and medium irregular black (N 2.5/0) iron-manganese nodules with diffuse strong brown (7.5YR 5/6) boundaries; about 26 percent clay; 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) organic coatings 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 2.5/0) iron-manganese nodules with diffuse strong brown (7.5YR 5/6) boundaries; about 22 percent clay; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to 72 inches

Thickness of the loess: 80 inches or more

Thickness of the mollic epipedon: 10 to 24 inches; the mollic epipedon extends into the upper part of the B horizon in some pedons

Content of exchangeable sodium: 5 to 15 percent in the upper part of the subsoil

Depth to carbonates (if they occur): Carbonates typically occur in the B horizon, but they are in the BCg and Cg horizons in some pedons.

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

AB or BA horizon (if it occurs):

Texture—silty clay loam or silt loam

Btkng or Btg horizon:

Hue—10YR, 2.5Y, 5Y, or N

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

Chroma—0 to 2

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

Cg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—5 or 6

Chroma—0 to 2

Texture—silt loam

Fults Series

Taxonomic classification: Fine, smectitic, mesic Vertic Endoaquolls

Typical Pedon

Fults silty clay, on a slope of 1 percent, on a slightly undulating flood plain in a cultivated field, at an elevation of about 385 feet above mean sea level; about 2.5 miles northwest of Chalfin Bridge, in Monroe County, Illinois; approximately 390 feet south and 120 feet west of the northeast corner of sec. 4, T. 4 S., R. 11 W.; USGS Selma, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 13 minutes 23 seconds N. and long. 90 degrees 18 minutes 47 seconds W., NAD 27:

Ap—0 to 7 inches; very dark gray (10YR 3/1) silty clay, dark gray (10YR 4/1) dry; moderate fine granular structure; very firm; common fine roots; neutral; 57 percent clay and 1 percent sand; abrupt smooth boundary.

A—7 to 12 inches; very dark gray (10YR 3/1) silty clay, dark gray (10YR 4/1) dry; moderate medium angular blocky structure; very firm; few fine roots; 58 percent clay and 1 percent sand; neutral; clear smooth boundary.

Btg1—12 to 18 inches; dark gray (10YR 4/1) clay; moderate medium prismatic structure parting to moderate medium angular blocky; very firm; few fine roots; many distinct very dark gray (5Y 3/1) organo-clay films on faces of pedis; few fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; 61 percent clay and 1 percent sand; neutral; clear smooth boundary.

Btg2—18 to 26 inches; dark gray (5Y 4/1) clay; moderate medium prismatic structure parting to moderate medium angular blocky; very firm; few fine roots; many distinct very dark gray (5Y 3/1) organo-clay films on faces of pedis; few fine prominent brown (7.5YR 4/4) masses of iron accumulation in the matrix; 59 percent clay and 3 percent sand; neutral; clear smooth boundary.

Btg3—26 to 32 inches; dark gray (5Y 4/1) clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; few fine roots; common distinct very dark gray (5Y 3/1)

organo-clay films on faces of peds; common fine prominent brown (7.5YR 4/4) masses of iron accumulation in the matrix; 53 percent clay and 13 percent sand; neutral; clear smooth boundary.

2Btg4—32 to 38 inches; dark gray (5Y 4/1) clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; many faint very dark gray (5Y 3/1) organo-clay films on faces of peds; common medium prominent yellowish red (5YR 5/8) masses of iron accumulation in the matrix; 35 percent clay and 34 percent sand; neutral; clear smooth boundary.

2Btg5—38 to 42 inches; dark gray (5Y 4/1) sandy clay loam; weak medium prismatic structure parting to weak medium subangular blocky; very friable; few fine roots; few faint very dark gray (5Y 3/1) organo-clay films on faces of peds; common fine prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; 23 percent clay and 52 percent sand; neutral; clear smooth boundary.

2Cg—42 to 60 inches; dark gray (5Y 4/1), stratified fine sandy loam; massive; very friable; many medium prominent brown (7.5YR 4/4) masses of iron accumulation in the matrix; 14 percent clay and 76 percent sand; neutral.

Range in Characteristics

Depth to the base of soil development: 32 to 64 inches

Thickness of the mollic epipedon: 10 to 24 inches; the mollic epipedon extends into the B horizon in many pedons

Depth to the loamy 2B horizon: 24 to 40 inches; typically 24 to 36 inches

Depth to carbonates: These soils typically do not have carbonates within the particle-size control section, but some pedons contain carbonates in the loamy or sandy alluvium.

Other features: Some pedons have an AB or a BA horizon. Some pedons have a 2BC horizon.

Ap and A horizons:

Hue—10YR or 2.5Y

Value—2 or 3 (3 to 5 dry)

Chroma—1 or 2

Texture—silty clay

Btg or Bg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—silty clay or clay; some subhorizons are silty clay loam or clay loam with more than 35 percent clay

2Btg or 2Bg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

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

2Cg or 2C horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 3

Texture—stratified; individual strata range from silty clay loam to very fine sand

8591A—Fults silty clay, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Position on the landform: Nearly level or gently undulating areas

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Slackwater sediments and the underlying stratified loamy or sandy alluvium

Flooding frequency: Occasional

Map Unit Composition

Fults and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a thinner dark surface layer than that of the Fults soil
- Soils that contain more sand in the subsoil than the Fults soil
- Soils that contain more clay in the subsoil and substratum than the Fults soil

Dissimilar soils:

- The somewhat poorly drained Nameoki and Shaffton soils in the higher landform positions
- The very poorly drained Darwin soils in wet depressions

Geff Series

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

Typical Pedon

Geff silt loam, in a nearly level area in a cultivated field, at an elevation of about 405 feet above mean sea level; about 3 miles southeast of Damiansville, in Clinton County, Illinois; approximately 2,200 feet south and 1,500 feet east of the northwest corner of sec. 32, T. 1 N., R. 4 W.; USGS Okawville, Illinois, topographic quadrangle; lat. 38 degrees 29 minutes 20 seconds N. and long. 89 degrees 33 minutes 57 seconds W., NAD 27:

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; moderate very fine granular structure; friable; few very fine roots; few very fine continuous tubular pores; few fine and medium irregular black (N 2.5/0) iron-manganese nodules with sharp boundaries; neutral; abrupt smooth boundary.

E—5 to 12 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 8/2) dry; moderate thick platy and moderate medium subangular blocky structure; friable; few very fine roots; common very fine and fine continuous tubular pores; common medium 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 (N 2.5/0) and brown (7.5YR 4/4) iron-manganese nodules with sharp boundaries; neutral; clear smooth boundary.

Bt1—12 to 20 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium subangular blocky structure; friable; few very fine roots; few very fine constricted tubular pores; few faint light gray (10YR 7/2) (dry) clay depletions and common faint dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; common fine and medium irregular very dark brown (7.5YR 2.5/2) and strong brown (7.5YR 4/6) iron-manganese nodules with clear boundaries; moderately acid; clear smooth boundary.

Bt2—20 to 26 inches; dark yellowish brown (10YR 4/4) silty clay loam; strong fine subangular blocky structure; firm; few very fine roots; few very fine constricted tubular pores; few faint light gray (10YR 7/2) (dry) clay depletions and many distinct dark grayish brown (10YR 4/2) and brown (10YR 4/3) clay films on faces of peds; common fine distinct grayish brown (10YR 5/2) iron depletions and few fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; common fine and medium irregular very dark brown (7.5YR 2.5/2) and strong brown (7.5YR 4/6)

masses of iron-manganese accumulation with clear boundaries; strongly acid; clear smooth boundary.

Bt3—26 to 33 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine prismatic structure parting to moderate fine subangular blocky; firm; few very fine roots; few very fine constricted tubular pores; few faint light gray (10YR 7/2) (dry) clay depletions and many distinct dark grayish brown (10YR 4/2) and brown (10YR 4/3) clay films on faces of peds; common fine distinct grayish brown (10YR 5/2) iron depletions and common fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; common medium and coarse irregular very dark brown (7.5YR 2.5/2) and strong brown (7.5YR 5/6) masses of iron-manganese accumulation with clear boundaries; strongly acid; clear smooth boundary.

2Bt4—33 to 37 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine prismatic structure parting to moderate fine subangular blocky; friable; few very fine roots; few very fine constricted tubular pores; few faint light gray (10YR 7/2) (dry) clay depletions and common distinct brown (10YR 4/3) clay films on faces of peds; few fine distinct grayish brown (10YR 5/2) iron depletions and common fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; few fine and medium irregular very dark brown (7.5YR 2.5/2) and strong brown (7.5YR 5/6) masses of iron-manganese accumulation with clear boundaries; about 8 percent sand; strongly acid; clear smooth boundary.

2Bt5—37 to 50 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium prismatic structure; friable; few very fine roots; few very fine vesicular pores; few faint light gray (10YR 7/2) (dry) clay depletions and few distinct brown (10YR 4/3) clay films on faces of peds; few prominent black (10YR 2/1) iron-manganese coatings on vertical faces of peds and lining root channels; few medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; many fine distinct dark yellowish brown (10YR 4/6) and few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium and coarse irregular very dark brown (7.5YR 2.5/2) and strong brown (7.5YR 5/6) masses of iron-manganese accumulation with diffuse boundaries; about 15 percent sand; strongly acid; gradual smooth boundary.

2BCt—50 to 62 inches; dark yellowish brown (10YR 4/4) loam; weak medium prismatic structure;

friable; few very fine roots; few very fine and fine vesicular pores; few faint light gray (10YR 7/2) (dry) clay depletions and few distinct brown (10YR 4/3) clay films on faces of peds; few prominent black (10YR 2/1) iron-manganese coatings on vertical faces of peds and lining root channels; few fine distinct grayish brown (10YR 5/2) iron depletions and many fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; common medium and coarse irregular very dark brown (7.5YR 2.5/2) and strong brown (7.5YR 5/6) masses of iron-manganese accumulation with diffuse boundaries; moderately acid; gradual smooth boundary.

2C1—62 to 72 inches; yellowish brown (10YR 5/4) loam; massive; very friable; few very fine roots; few very fine and fine vesicular pores; very few prominent black (10YR 2/1) iron-manganese coatings lining root channels and pores; common medium distinct light brownish gray (10YR 6/2) iron depletions and few fine distinct strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; few medium and coarse irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation with diffuse boundaries; slightly acid; clear smooth boundary.

2C2—72 to 78 inches; yellowish brown (10YR 5/4), stratified loam and fine sandy loam; massive; very friable; few very fine vesicular pores; very few prominent black (10YR 2/1) iron-manganese coatings lining root channels and pores; few fine distinct light brownish gray (10YR 6/2) iron depletions and common fine distinct strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; few fine and medium irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation with diffuse boundaries; neutral; abrupt smooth boundary.

3E&Bt—78 to 94 inches; light yellowish brown (10YR 6/4) fine sand (E); single grain; loose; yellowish brown (10YR 5/6) lamellae of loamy fine sand (Bt); massive; very friable; few distinct dark yellowish brown (10YR 4/4) clay films occurring as bridges between sand grains; slightly acid.

Range in Characteristics

Depth to the base of the argillic horizon (including lamellae): 50 to more than 80 inches

Thickness of the loess or other silty material: 24 to 40 inches

Texture of the particle-size control section: Averages between 27 and 35 percent clay and less than 10 percent, by volume, rock fragments

Other features: Some pedons have an A horizon,

which is less than 7 inches thick. This horizon has value of 2 or 3 (4 or 5 dry). Some pedons have a 2C horizon within a depth of 80 inches.

Ap or A horizon:

Hue—10YR

Value—4 or 5 (5 to 7 dry)

Chroma—1 to 3

Texture—silt loam

E and/or BE horizon:

Hue—10YR

Value—5 or 6 (7 or 8 dry)

Chroma—2 or 3

Texture—silt loam or silty clay loam

Bt horizon:

Hue—10YR

Value—4 to 6

Chroma—2 to 4

Texture—silty clay loam; silt loam in individual subhorizons of some pedons

2Bt horizon and 2BC horizon (if it occurs):

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—1 to 6

Texture—silt loam, silty clay loam, loam, clay loam, sandy loam, or sandy clay loam; the content of clay averages between 18 and 30 percent, and the content of sand averages 15 to 50 percent; in individual subhorizons the content of clay ranges from 10 to 35 percent and the content of sand ranges from 15 to 70 percent

3E&Bt horizon (if it occurs):

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—1 to 6

Texture—stratified loam to fine sand; the E part averages 1 to 10 percent clay and 70 to 98 percent sand, and the Bt part averages 3 to 15 percent clay and 65 to 95 percent sand

7432A—Geff silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Terraces

Position on the landform: Treads

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Silty and loamy alluvium

Flooding frequency: Rare

Map Unit Composition

Geff and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Geff soil
- Soils that contain less sand in the subsoil than the Geff soil
- Soils that have slopes of more than 2 percent

Dissimilar soils:

- The well drained Ridgway soils in the higher landform positions

Gosport Series

Taxonomic classification: Fine, illitic, mesic Typic Hapludalfs

Taxadjunct features: The Gosport soils in this survey area have translocated clay and have redder hue and higher chroma in the subsoil than are defined as the range for the series. These differences, however, do not significantly affect the use and management of these soils.

Map unit in which this series occurs: 967F

Typical Pedon

Gosport silt loam, in a strongly sloping area in a cultivated field, at an elevation of about 525 feet above mean sea level; about 1 mile southwest of Grantfork, in Madison County, Illinois; approximately 1,245 feet west and 1,370 feet south of the northeast corner of sec. 5, T. 4 N., R. 5 W.; USGS Grantfork, Illinois, topographic quadrangle; lat. 38 degrees 49 minutes 34 seconds N. and long. 89 degrees 40 minutes 41 seconds W., NAD 27:

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; slightly acid; clear smooth boundary.

BE—5 to 9 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; friable; moderately acid; clear smooth boundary.

Bt1—9 to 17 inches; strong brown (7.5YR 5/6) silty clay; moderate very fine and fine angular and subangular blocky structure; firm; few faint yellowish brown (10YR 5/4) clay films on faces of pedis; common medium prominent light brownish gray (2.5Y 6/2) iron depletions and few fine prominent yellowish red (5YR 5/8) masses of iron

accumulation in the matrix; common medium irregular masses of iron-manganese accumulation; common shale and ironstone channers; very strongly acid; clear smooth boundary.

Bt2—17 to 24 inches; yellowish brown (10YR 5/4) silty clay; moderate fine angular blocky structure; firm; few faint brown (10YR 5/3) clay films on faces of pedis; common medium prominent gray (5Y 6/1) iron depletions and reddish yellow (5YR 6/8) masses of iron accumulation in the matrix; many shale and ironstone channers; very strongly acid; clear smooth boundary.

BC—24 to 32 inches; grayish brown (2.5Y 5/2) silty clay; moderate medium angular blocky structure; firm; common medium prominent yellowish brown (10YR 5/6) and yellowish red (5YR 5/8) masses of iron accumulation in the matrix; many shale, siltstone, and ironstone channers; very strongly acid; abrupt wavy boundary.

Cr1—32 to 39 inches; light olive brown (2.5Y 5/4) silty clay shale; massive; weak medium rock structure of bedded shale; firm; common medium distinct gray (N 6/0) and grayish brown (2.5Y 5/2) iron depletions and common medium prominent reddish yellow (5YR 6/8) masses of iron accumulation in the matrix; very strongly acid; abrupt wavy boundary.

Cr2—39 to 60 inches; reddish brown (2.5YR 4/4) silty clay shale interbedded with siltstone and sandstone; few distinct gray (N 5/0) coatings along shale cleavage planes; very strongly acid.

Range in Characteristics

Depth to the base of soil development: 20 to 40 inches; typically 20 to 30 inches

Reaction in the control section: Strongly acid to extremely acid

Ap or A horizon:

Hue—10YR

Value—3 or 4 (5 or 6 dry)

Chroma—1 or 2

Texture—silty clay loam or silt loam

E horizon (if it occurs):

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 to 4

Texture—silt loam

Bt horizon:

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—5 or 6

Chroma—2 to 6

Texture—silty clay or clay

Cr horizon:

Hue—7.5YR, 10YR, 2.5Y, 5Y, or N
 Value—4 to 6
 Chroma—0 to 8
 Texture—fine textured shale

Grantfork Series

Taxonomic classification: Fine-loamy, mixed,
 superactive, mesic Aeric Epiaqualfs

Map units in which this series occurs: 878C3, 914C3,
 914D3

Typical Pedon

Grantfork silty clay loam, on a slope of 9 percent, on a backslope in a severely eroded area in a field of clover, at an elevation of about 590 feet above mean sea level; about 1 mile northeast of New Douglas, in Madison County, Illinois; approximately 732 feet east and 560 feet north of the southwest corner of sec. 3, T. 6 N., R. 5 W.; USGS New Douglas, Illinois, topographic quadrangle; lat. 38 degrees 59 minutes 42 seconds N. and long. 89 degrees 39 minutes 17 seconds W., NAD 27:

- Ap—0 to 5 inches; dark yellowish brown (10YR 4/4) silty clay loam, light yellowish brown (10YR 6/4) dry; weak fine and medium subangular blocky structure; firm; common very fine and few fine roots; few very fine and fine tubular pores; few fine rounded dark reddish brown (5YR 3/4) masses of iron-manganese accumulation; 11 percent sand; few pebbles; neutral; abrupt smooth boundary.
- Bt—5 to 12 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium angular blocky structure in 2-inch plowsole and weak medium subangular blocky below; firm; few very fine roots; many faint brown (10YR 4/3) clay films on faces of peds in the upper part and many faint grayish brown (10YR 4/2) clay films on faces of peds in the lower part; common fine distinct grayish brown (10YR 5/2) iron depletions and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; 17 percent sand; few pebbles; neutral; clear smooth boundary.
- Btg—12 to 23 inches; grayish brown (10YR 5/2) silt loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine and medium rounded black (10YR 2/1) iron-manganese nodules with sharp boundaries;

3 percent exchangeable sodium; 24 percent sand; few pebbles; slightly alkaline; abrupt smooth boundary.

Btng1—23 to 29 inches; light brownish gray (2.5Y 6/2) loam; weak medium and coarse prismatic structure parting to weak medium angular blocky; firm; few very fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent dark yellowish brown (10YR 4/4) and common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few fine rounded black (10YR 2/1) iron-manganese nodules with sharp boundaries; 6 percent exchangeable sodium; 24 percent sand; few pebbles; moderately alkaline; clear smooth boundary.

Btng2—29 to 37 inches; grayish brown (10YR 5/2) 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; common fine distinct dark yellowish brown (10YR 4/4) and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine rounded black (10YR 2/1) iron-manganese nodules with sharp boundaries; 8 percent exchangeable sodium; 25 percent sand; few pebbles; moderately alkaline; clear smooth boundary.

2Btng3—37 to 49 inches; light brownish gray (10YR 6/2) clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; many distinct grayish brown (10YR 5/2) clay films on faces of peds and brown (10YR 4/3) clay films lining pores; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine irregular black (10YR 2/1) iron-manganese nodules with sharp boundaries; 10 percent exchangeable sodium; 35 percent sand; common pebbles; moderately alkaline; clear smooth boundary.

2Btng4—49 to 57 inches; light brownish gray (10YR 6/2) loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; many distinct dark grayish brown (10YR 4/2) and dark yellowish brown (10YR 4/4) clay films on faces of peds; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine irregular black (10YR 2/1) iron-manganese nodules with sharp boundaries; 11 percent exchangeable sodium; 33 percent sand; common pebbles; strongly alkaline; clear smooth boundary.

2BCtng—57 to 67 inches; light brownish gray (10YR

6/2) clay loam; weak coarse prismatic structure; friable; common faint grayish brown (10YR 5/2) clay films on vertical faces of peds; few prominent very dark gray (10YR 3/1) organo-clay films lining pores; many medium prominent yellowish brown (10YR 5/6) and yellowish red (5YR 5/8) masses of iron accumulation in the matrix; common fine and medium irregular black (10YR 2/1) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; 11 percent exchangeable sodium; 41 percent sand; common pebbles; moderately alkaline; clear smooth boundary.

3Btgb—67 to 80 inches; gray (2.5Y 5/1) clay; weak medium prismatic structure parting to moderate medium angular blocky; very firm; many faint gray (2.5Y 5/1) pressure faces on faces of peds; few prominent very dark gray (10YR 3/1) organo-clay films lining pores; many coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix in the upper part; common pebbles and few cobbles; slightly alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 45 to more than 80 inches

Content of exchangeable sodium: 5 to 15 percent in one or more subhorizons between the depths of 10 and 40 inches

Depth to till: 0 to 45 inches; typically 30 to 40 inches

Ap or A horizon:

Hue—10YR

Value—3 or 4 (4 to 6 dry)

Chroma—2 to 4

Texture—silty clay loam or clay loam

E, EB, or BE horizon (if it occurs):

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 to 4

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

Bt, Btg, Btng, 2Bt, 2Btg, or 2Btng horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6; 4 to 7 in the lower part in some pedons

Chroma—2 to 4 in the upper part; 1 to 4 in the lower part

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

BCg, BCtng, 2BCg, or 2BCtng horizon (if it occurs):

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—1 or 2

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

Cg or 2Cg horizon (if it occurs):

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—1 or 2

Texture—typically clay loam, but the range includes loam or silt loam

3Btgb, 3Btb, 3C, or 3Cg horizon (if it occurs):

Hue—5YR, 7.5YR, 10YR, 2.5Y, or N

Value—3 to 7

Chroma—0 to 8

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

Haymond Series

Taxonomic classification: Coarse-silty, mixed, superactive, mesic Dystric Fluventic Eutrudepts

Typical Pedon

Haymond silt loam, in a nearly level area in a cultivated field, at an elevation of about 424 feet above mean sea level; about 2 miles north of State Park Place, in Madison County, Illinois; approximately 42 feet west and 198 feet north of the center of sec. 24, T. 3 N., R. 9 W.; USGS Monks Mound, Illinois, topographic quadrangle; lat. 38 degrees 41 minutes 43 seconds N. and long. 90 degrees 02 minutes 52 seconds W., NAD 27:

Ap—0 to 14 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; very weak fine subangular blocky structure; friable; moderately acid; clear smooth boundary.

Bw1—14 to 33 inches; brown (10YR 4/3) silt loam; very weak fine subangular blocky structure; friable; moderately acid; clear smooth boundary.

Bw2—33 to 44 inches; yellowish brown (10YR 5/4) silt loam; very weak fine subangular blocky structure; friable; neutral; clear smooth boundary.

C—44 to 60 inches; pale brown (10YR 6/3) very fine sandy loam; massive; very friable; neutral.

Range in Characteristics

Depth to the base of the cambic horizon: 30 to 60 inches

Texture of the particle-size control section: Averages between 10 and 18 percent clay, less than 15 percent fine sand or coarser, and less than 20 percent very fine sand

Depth to a buried soil (if it occurs): More than 40 inches

Ap or A horizon:

Hue—10YR
 Value—4 or 5 (6 or 7 dry)
 Chroma—2 to 4
 Texture—silt loam

Bw horizon:

Hue—10YR
 Value—4 or 5
 Chroma—3 or 4
 Texture—silt loam

C horizon:

Hue—10YR
 Value—4 or 5
 Chroma—3 or 4
 Texture—silt loam, fine sandy loam, sandy loam,
 or loam

8331A—Haymond silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Silty alluvium

Flooding frequency: Occasional

Map Unit Composition

Haymond and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Haymond soil
- Soils that contain more sand in the substratum than the Haymond soil
- Soils that have a dark buried soil within a depth of 40 inches

Dissimilar soils:

- The somewhat poorly drained Dupo, Orion, and Wakeland soils in the lower landform positions

Herrick Series

Taxonomic classification: Fine, smectitic, mesic Aquic Argiudolls

Typical Pedon

Herrick silt loam, in a nearly level area in a cultivated

field, at an elevation of about 520 feet above mean sea level; about 2 miles east of Summerfield, in St. Clair County, Illinois; approximately 850 feet west and 520 feet north of the southeast corner of sec. 24, T. 2 N., R. 6 W.; USGS Trenton, Illinois, topographic quadrangle; lat. 38 degrees 35 minutes 53 seconds N. and long. 89 degrees 42 minutes 33 seconds W., NAD 27:

Ap—0 to 8 inches; very dark brown (10YR 2/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many very fine roots; about 25 percent clay; slightly acid; abrupt smooth boundary.

A—8 to 13 inches; very dark brown (10YR 2/2) silt loam, grayish brown (10YR 5/2) dry; strong medium granular structure; friable; many very fine roots; few fine rounded strong brown (7.5YR 5/6) masses of iron-manganese accumulation; about 26 percent clay; slightly acid; clear smooth boundary.

BE—13 to 18 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; weak medium platy structure parting to moderate very fine subangular blocky; friable; common very fine roots; few faint light brownish gray (10YR 6/2) (dry) clay depletions on faces of peds and many distinct very dark brown (10YR 2/2) organic coatings on faces of peds; common fine distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; few fine rounded strong brown (7.5YR 5/6) masses of iron-manganese accumulation; about 32 percent clay; slightly acid; clear smooth boundary.

Bt1—18 to 28 inches; brown (10YR 4/3) silty clay loam; weak fine prismatic structure parting to moderate fine and medium subangular blocky; firm; common very fine roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine distinct grayish brown (10YR 5/2) iron depletions and few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine irregular black (10YR 2/1) masses of iron-manganese accumulation; about 37 percent clay; moderately acid; gradual smooth boundary.

Bt2—28 to 39 inches; brown (10YR 4/3) silty clay loam; moderate fine prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films and 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 and

medium irregular black (10YR 2/1) masses of iron-manganese accumulation; about 36 percent clay; moderately acid; gradual smooth boundary.

Bt3—39 to 53 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine and medium distinct 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 irregular black (10YR 2/1) masses of iron-manganese accumulation; about 33 percent clay; slightly acid; gradual smooth boundary.

BCt—53 to 60 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium prismatic structure parting to weak coarse angular blocky; friable; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; many medium distinct grayish brown (10YR 5/2) iron depletions and common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; about 29 percent clay; neutral; gradual smooth boundary.

C—60 to 80 inches; dark yellowish brown (10YR 4/4) silt loam; massive; friable; few very fine roots; few distinct dark grayish brown (10YR 4/2) clay films lining vertical channels; common medium distinct light brownish gray (10YR 6/2) iron depletions and many fine and medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 5/6) boundaries; about 25 percent clay; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 45 to 60 inches

Thickness of the mollic epipedon: 10 to 21 inches; the mollic epipedon includes the E horizon in some pedons

Thickness of the loess: 50 to more than 80 inches

Texture of the particle-size control section: Averages between 35 and 42 percent clay and less than 8 percent sand

Other features: Some pedons have an incipient E horizon, and other pedons have an EB horizon.

Ap horizon and A horizon (if it occurs):

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 or 2

Texture—silt loam

E or BE horizon:

Hue—10YR

Value—3 or 4 (5 or 6 dry)

Chroma—1 or 2

Texture—silt loam or silty clay loam

Bt and/or Btg horizon:

Hue—10YR or 2.5Y; 5Y in the lower part in some pedons

Value—4 to 6

Chroma—2 to 6

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

C or 2C horizon (if it occurs):

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—2 to 6

Texture—typically silt loam; silty clay loam, clay loam, or loam in some pedons

46A—Herrick silt loam, 0 to 2 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Nearly level summits and interfluves

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Loess; or loess and the underlying silty pediment

Flooding: None

Map Unit Composition

Herrick and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a thinner dark surface layer than that of the Herrick soil
- Soils that contain less clay in the subsoil than the Herrick soil
- Soils that contain a concentration of exchangeable sodium in the subsoil

Dissimilar soils:

- The poorly drained Cowden and Virden soils in small depressions
- The poorly drained Piasa soils, which have a natric horizon

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

Setting

Landform: Loess-covered till plains

Position on the landform: Broad interfluves

Soil Properties and Qualities

Drainage class: Herrick—somewhat poorly drained; Biddle—somewhat poorly drained; Piasa—poorly drained

Dominant parent material: Loess; or loess and the underlying silty pedis sediment

Flooding: None

Map Unit Composition

Herrick and similar soils: 40 percent

Biddle and similar soils: 30 percent

Piasa and similar soils: 20 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a thinner dark surface layer
- Soils that do not have an E horizon

Dissimilar soils:

- The poorly drained Cowden and Virden soils in small depressions
- The moderately well drained Aviston soils in the higher landform positions

Hickory Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Hickory silt loam, on a north-facing, convex slope of 30 percent in an area of mixed hardwoods, at an elevation of about 590 feet above mean sea level; about 8 miles north and 0.5 mile west of Greenville, in Bond County, Illinois; approximately 792 feet west and 38 feet north of the southeast corner of sec. 28, T. 7 N., R. 3 W.; USGS Coffeen, Illinois, topographic quadrangle; lat. 39 degrees 00 minutes 48 seconds N.

and long. 89 degrees 25 minutes 11 seconds W., NAD 27:

A—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; many very fine and few fine and medium roots; few fine and medium continuous tubular pores; about 20 percent sand; very strongly acid; clear smooth boundary.

E—4 to 12 inches; light yellowish brown (10YR 6/4) silt loam, very pale brown (10YR 7/4) dry; weak very thick platy structure parting to weak fine granular; friable; few very fine to medium roots; few fine and medium continuous tubular pores; pockets of dark grayish brown (10YR 4/2) surface soil material filling large root channels; about 20 percent sand; about 1 percent pebbles; strongly acid; clear smooth boundary.

Bt1—12 to 17 inches; yellowish brown (10YR 5/6) clay loam; moderate fine subangular blocky structure; firm; common very fine and few fine and medium roots; common distinct brown (10YR 4/3) clay films on faces of peds; about 1 percent pebbles; very strongly acid; clear smooth boundary.

Bt2—17 to 26 inches; dark yellowish brown (10YR 4/6) clay loam; moderate medium subangular blocky structure; firm; few very fine and medium roots; common distinct brown (10YR 5/3) clay films on faces of peds; about 2 percent fine and medium pebbles; very strongly acid; gradual smooth boundary.

Bt3—26 to 35 inches; yellowish brown (10YR 5/4) clay loam; moderate medium and coarse angular blocky structure; firm; few very fine and medium roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds and few prominent brown (7.5YR 4/4) clay films coating medium pebbles; many medium and coarse prominent brownish yellow (10YR 6/8) and strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few fine rounded black (10YR 2/1) iron-manganese nodules with sharp boundaries; about 3 percent fine and medium pebbles; very strongly acid; gradual smooth boundary.

Bt4—35 to 46 inches; yellowish brown (10YR 5/4) clay loam; weak medium and coarse prismatic structure parting to weak coarse angular blocky; firm; few very fine and medium roots; common distinct dark yellowish brown (10YR 4/4) clay films on vertical faces of peds and few prominent brown (7.5YR 4/4) clay films coating medium and coarse pebbles; many coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine rounded black (10YR 2/1) iron-

manganese nodules with sharp boundaries; about 4 percent fine to coarse pebbles; strongly acid; diffuse smooth boundary.

BCt—46 to 58 inches; light yellowish brown (10YR 6/4) loam; weak medium and coarse subangular blocky structure; friable; few very fine and fine roots; few distinct dark yellowish brown (10YR 4/4) clay films on vertical faces of pedis and few prominent brown (7.5YR 4/4) clay films coating medium pebbles; common medium distinct dark yellowish brown (10YR 4/6) and few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine rounded black (10YR 2/1) iron-manganese nodules with sharp boundaries; about 5 percent fine and medium pebbles; strongly acid; gradual smooth boundary.

CB—58 to 65 inches; yellowish brown (10YR 5/6) loam; massive; friable; few very fine and fine roots; few distinct brown (10YR 4/3) clay films lining root channels and coating medium pebbles; few fine distinct brown (10YR 5/3) iron depletions in the matrix; about 5 percent fine and medium pebbles; moderately acid; clear smooth boundary.

C—65 to 80 inches; variegated yellowish brown (10YR 5/4), strong brown (7.5YR 5/6), and light gray (2.5Y 7/1) loam; massive; friable; few very fine roots; about 3 percent fine and medium pebbles; slightly acid.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to more than 80 inches

Thickness of the loess: 0 to 20 inches

Texture of the particle-size control section: Averages between 27 and 35 percent clay, between 15 and 45 percent fine sand and coarser, and less than 20 percent, by volume, gravel

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

Other features: Some pedons have a BE horizon.

A horizon (if it occurs):

Hue—10YR

Value—2 to 4 (4 to 6 dry)

Chroma—2 or 3

Texture—silt loam or loam

Ap horizon (if it occurs):

Hue—7.5YR or 10YR

Value—3 to 5 (5 to 7 dry)

Chroma—2 to 4

Texture—silt loam or loam; silty clay loam or clay loam in some pedons in eroded areas

E horizon (if it occurs):

Hue—10YR

Value—4 to 6 (5 to 7 dry)

Chroma—2 to 4

Texture—silt loam or loam

Bt horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6

Texture—commonly clay loam; in some pedons the first subhorizon is silty clay loam, and in other pedons the lower horizons are loam or gravelly clay loam

CB or C horizon (if it occurs):

Hue—7.5YR, 10YR, or 2.5Y

Value—5 to 7

Chroma—1 to 8

Texture—loam, clay loam, or sandy loam

Content of gravel—averages about 5 percent; ranges from 2 to 20 percent

8D3—Hickory clay loam, 10 to 18 percent slopes, severely eroded

Setting

Landform: Till plains

Position on the landform: Convex side slopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Glacial till

Flooding: None

Map Unit Composition

Hickory and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain more clay in the subsoil than the Hickory soil
- Soils that have slopes of more than 18 percent or less than 10 percent
- Areas of soils that are less eroded than the Hickory soil

Dissimilar soils:

- The moderately well drained Elco soils at the upper end of drainageways
- The somewhat poorly drained Wakeland soils on narrow flood plains

8F—Hickory silt loam, 18 to 35 percent slopes

Setting

Landform: Till plains

Position on the landform: Convex side slopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Glacial till

Flooding: None

Map Unit Composition

Hickory and similar soils: 85 percent

Dissimilar components: 15 percent

Minor Components

Similar soils:

- Soils that contain more clay in the subsoil than the Hickory soil
- Soils that have slopes of more than 35 percent or less than 18 percent
- Areas of soils that are eroded

Dissimilar components:

- The moderately well drained Elco soils at the upper end of drainageways
- The somewhat poorly drained Wakeland soils on narrow flood plains
- Areas of rock outcrop at the base of slopes

967F—Hickory-Gosport silt loams, 18 to 35 percent slopes

Setting

Landform: Till plains

Position on the landform: Convex side slopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Hickory—glacial till;
Gosport—shale residuum

Flooding: None

Map Unit Composition

Hickory and similar soils: 50 percent

Gosport and similar soils: 40 percent

Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that contain more clay in the subsoil than the Hickory soil
- Soils that have slopes of more than 35 percent or less than 18 percent

- Soils that contain more sand and less clay in the upper part than the Gosport soil
- Soils that are deeper to the clayey shale than the Gosport soil
- Areas of soils that are eroded

Dissimilar components:

- The moderately well drained Elco soils at the upper end of drainageways
- The somewhat poorly drained Wakeland soils on narrow flood plains
- Areas of rock outcrop at the base of slopes

Homen Series

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

Typical Pedon

Homen silt loam, in a gently sloping area in a cultivated field, at an elevation of about 560 feet above mean sea level; about 4 miles south of Coulterville, in 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., NAD 27:

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 constricted tubular pores; few fine rounded black (N 2.5/0) iron-manganese concretions; about 23 percent clay; 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 continuous tubular pores; few fine rounded black (N 2.5/0) iron-manganese concretions; about 25 percent clay; 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 fine and medium constricted tubular pores; 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 2.5/0) iron-manganese concretions; about 29 percent clay; very strongly acid; abrupt smooth boundary.

Bt/E—22 to 28 inches; yellowish brown (10YR 5/6)

silty clay loam (Bt); moderate fine and medium subangular blocky structure; firm; common fine roots along vertical faces of peds; many distinct yellowish brown (10YR 5/4) clay films on faces of peds; few fine and medium rounded black (N 2.5/0) iron-manganese concretions; many prominent very pale brown (10YR 7/3) (dry) clay depletions on faces of peds and filling vertical interstices between peds (E); very strongly acid; abrupt smooth boundary.

B¹t¹—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-manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; 32 percent clay; very strongly acid; clear smooth boundary.

B¹t²—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-manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; 30 percent clay; strongly acid; gradual smooth boundary.

B¹t³—48 to 58 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; common very fine roots throughout; few very fine constricted tubular pores; 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 iron-manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; about 28 percent clay; 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; common very fine and fine constricted tubular pores; 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 iron-manganese accumulation; about 26 percent clay and 10 percent sand; 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; common fine and medium constricted tubular pores; few prominent black (N 2.5/0) iron-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) masses of iron accumulation in the matrix; few fine irregular black (7.5YR 2.5/1) and strong brown (7.5YR 5/6) masses of iron-manganese accumulation; about 24 percent clay and 12 percent sand; slightly acid.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to 80 inches

Thickness of the loess: 40 to 80 inches

Texture of the particle-size control section: Averages between 27 and 35 percent clay and less than 7 percent sand

Other features: Some pedons have an EB or a BE horizon.

Ap horizon:

Hue—10YR

Value—4 or 5 (6 or 7 dry); 3 (5 or 6 dry) in undisturbed areas

Chroma—2 or 3; 1 or 2 in undisturbed areas

Texture—silt loam

E horizon:

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 to 4

Texture—silt loam

Bt horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6

Texture—silty clay loam

Bt/E and B¹t horizons:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silty clay loam or silt loam

2C horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—1 to 4

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

582B—Homen silt loam, 2 to 5 percent slopes***Setting****Landform:* Loess-covered till plains*Position on the landform:* Convex summits***Soil Properties and Qualities****Drainage class:* Moderately well drained*Dominant parent material:* Loess; or loess and the underlying silty pedis sediment*Flooding:* None***Map Unit Composition***

Homen and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components*Similar soils:*

- Soils that have a darker surface layer than that of the Homen soil
- Soils that contain more clay in the subsoil than the Homen soil
- Soils that are moderately eroded; near the edge of the mapped areas

Dissimilar soils:

- The somewhat poorly drained Marine soils in the less sloping landform positions
- The well drained Ruma soils in the more convex landform positions

582C2—Homen silt loam, 5 to 10 percent slopes, eroded***Setting****Landform:* Loess-covered till plains*Position on the landform:* Convex summits, shoulders, and backslopes***Soil Properties and Qualities****Drainage class:* Moderately well drained*Dominant parent material:* Loess; or loess and the underlying silty pedis sediment*Flooding:* None***Map Unit Composition***

Homen and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components*Similar soils:*

- Soils that have a darker surface layer than that of the Homen soil
- Soils that contain more clay in the subsoil than the Homen soil
- Areas of soils that are severely eroded

Dissimilar soils:

- The somewhat poorly drained Marine soils in the less sloping landform positions
- The well drained Ruma soils in the more convex landform positions

Hurst Series*Taxonomic classification:* Fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs***Typical Pedon***

Hurst silt loam, in a nearly level area in a cultivated field, at an elevation of about 385 feet above mean sea level; about 3 miles east of Hurst, in Williamson County, Illinois; approximately 1,490 feet north and 1,200 feet west of the southeast corner of sec. 10, T. 8 S., R. 1 E.; USGS Herrin, Illinois, topographic quadrangle; lat. 37 degrees 50 minutes 15 seconds N. and long. 89 degrees 04 minutes 48 seconds W., NAD 27:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium granular structure; friable; many very fine roots; common fine and medium rounded black (7.5YR 2.5/1) iron-manganese nodules with sharp boundaries; about 21 percent clay; slightly acid; abrupt smooth boundary.

E—7 to 12 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; moderate medium platy structure parting to weak fine subangular blocky; friable; common very fine roots; many fine faint light brownish gray (10YR 6/2) iron depletions and common medium faint yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; common fine and medium rounded black (7.5YR 2.5/1) iron-manganese nodules with sharp boundaries; about 22 percent clay; strongly acid; clear smooth boundary.

Bt1—12 to 18 inches; yellowish brown (10YR 5/4) silty

clay loam; moderate fine and medium subangular blocky structure; firm; common very fine roots; common continuous distinct brown (10YR 4/3) clay films on faces of peds; many continuous prominent very pale brown (10YR 8/2) clay depletions on faces of peds; many fine and medium distinct light brownish gray (10YR 6/2) iron depletions and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine rounded very dark brown (7.5YR 2.5/2) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; about 30 percent clay; very strongly acid; clear smooth boundary.

2Bt2—18 to 28 inches; brown (10YR 5/3) silty clay; weak fine prismatic structure parting to weak medium angular blocky; very firm; common very fine roots; common continuous distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine faint grayish brown (10YR 5/2) iron depletions and common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine irregular strong brown (7.5YR 4/6) masses of iron-manganese accumulation with clear boundaries; about 43 percent clay; very strongly acid; gradual smooth boundary.

2Btg1—28 to 40 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine prismatic structure parting to weak medium angular blocky; very firm; few very fine roots; common continuous distinct dark grayish brown (10YR 4/2) clay films on faces of peds and few continuous prominent brown (10YR 4/3) clay films lining large channels; few fine and medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine irregular strong brown (7.5YR 4/6) masses of iron-manganese accumulation with clear boundaries; about 38 percent clay; very strongly acid; clear smooth boundary.

2Btg2—40 to 53 inches; grayish brown (2.5Y 5/2) silty clay; weak medium prismatic structure parting to weak medium angular blocky; very firm; few very fine roots; common continuous distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common continuous prominent black (N 2.5/0) iron-manganese coatings on faces of peds and lining large channels; few fine prominent yellowish brown (10YR 5/6) and common fine distinct dark brown (10YR 3/3) masses of iron accumulation in the matrix; about 46 percent clay; moderately acid; clear smooth boundary.

2Btg3—53 to 62 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure

parting to weak coarse angular blocky; firm; few very fine roots; common continuous distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; many coarse irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; about 37 percent clay; slightly effervescent; slightly alkaline; clear smooth boundary.

2BCkg—62 to 76 inches; olive gray (5Y 4/2) silty clay; weak medium prismatic structure parting to moderate medium angular blocky; very firm; few very fine roots; common continuous distinct olive gray (5Y 4/2) pressure faces on faces of peds; common continuous distinct very dark brown (7.5YR 2.5/3) iron-manganese coatings on faces of peds and lining large channels; few fine prominent yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; few fine irregular black (7.5YR 2.5/1) and strong brown (7.5YR 5/6) masses of iron-manganese accumulation with diffuse boundaries; common fine and medium irregular white (10YR 8/1) (dry) carbonate concretions; about 45 percent clay; strongly effervescent; slightly alkaline; clear smooth boundary.

2Cg—76 to 80 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; few continuous distinct dark grayish brown (10YR 4/2) clay films lining vertical channels; common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation along vertical channels; few fine prominent yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; common fine irregular very dark brown (7.5YR 2.5/2) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 5/6) boundaries; about 33 percent clay; slightly alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 44 to more than 80 inches

Thickness of the loess or other silty material: 0 to 24 inches

Depth to carbonates (if they occur): Carbonates are in the lower part of the 2B horizon or in the 2BC and 2C horizons.

Other features: Some pedons, especially pedons that have a loess cap nearly 24 inches thick, have a BE or Bt horizon that formed in the upper, silty material. A sandy substratum phase of loamy sand or sand is recognized.

Ap or A horizon:

Hue—10YR
 Value—4 or 5 (6 or 7 dry)
 Chroma—2 or 3
 Texture—silt loam or silty clay loam

E horizon (if it occurs):

Hue—10YR
 Value—5 or 6 (6 to 8 dry)
 Chroma—2 (3 in pedons that have redoximorphic features)
 Texture—silt loam or silty clay loam

2Bt and 2Btg horizons:

Hue—10YR, 2.5Y, or 5Y
 Value—4 to 6
 Chroma—3 or 4 (2Bt); 1 or 2 (2Btg)
 Texture—silty clay loam, silty clay, or clay

2C horizon:

Hue—10YR, 2.5Y, or 5Y
 Value—4 to 6
 Chroma—1 to 4
 Texture—silty clay loam or silty clay; stratified in some pedons

7338A—Hurst silty clay loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Lake plains

Position on the landform: Treads

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Clayey lacustrine sediments

Flooding frequency: Rare

Map Unit Composition

Hurst and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a thinner subsoil than the Hurst soil and contain carbonates higher in the profile
- Soils that are moderately eroded; near the edge of the mapped areas
- Soils that have slopes of more than 2 percent

Dissimilar soils:

- The moderately well drained Colp soils in the higher, more convex landform positions

Landes Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Fluventic Hapludolls

Typical Pedon

Landes very fine sandy loam, in a gently sloping area in a cultivated field, at an elevation of about 400 feet above mean sea level; about 3 miles northwest of New Hanover, in Monroe County, Illinois; approximately 1,740 feet south and 2,800 feet west of the intersection of railroad tracks and Steppig Road, sec. 25, T. 1 S., R. 11 W.; USGS Oakville, Missouri-Illinois, topographic quadrangle; lat. 38 degrees 24 minutes 57 seconds N. and long. 90 degrees 16 minutes 02 seconds W., NAD 27:

- Ap—0 to 10 inches; very dark gray (10YR 3/1) very fine sandy loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; friable; many very fine and few fine roots; few very fine tubular pores; slightly acid; abrupt smooth boundary.
- A—10 to 14 inches; very dark gray (10YR 3/1) very fine sandy loam, dark grayish brown (10YR 4/2) dry; moderate fine subangular blocky structure; very friable; common very fine and few fine roots; common very fine and fine tubular pores; common faint black (10YR 2/1) organic coatings on faces of peds; neutral; clear smooth boundary.
- AB—14 to 18 inches; dark brown (10YR 3/3) very fine sandy loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; very friable; common very fine and few fine roots; few very fine tubular pores; few distinct black (10YR 2/1) organic coatings on faces of peds; neutral; clear smooth boundary.
- Bw1—18 to 30 inches; brown (10YR 4/3) very fine sandy loam; weak fine subangular blocky structure; very friable; few very fine and fine roots; common very fine and fine tubular pores; few faint dark brown (10YR 3/3) organo-clay films on faces of peds; neutral; gradual smooth boundary.
- Bw2—30 to 39 inches; brown (10YR 4/3) very fine sandy loam; weak medium subangular blocky structure; very friable; few very fine and fine roots; few very fine tubular pores; few distinct brown (10YR 4/3) clay films in root channels and in pores; neutral; gradual smooth boundary.
- BC—39 to 47 inches; brown (10YR 4/3) loamy very fine sand; weak medium subangular blocky structure; very friable; few very fine roots; slightly acid; clear smooth boundary.
- C—47 to 80 inches; brown (10YR 5/3) very fine sand; single grain; loose; few very fine roots; neutral.

Range in Characteristics

Depth to the base of the cambic horizon: 22 to 40 inches

Thickness of the mollic epipedon: 10 to 20 inches

Content of sand in the particle-size control section: 50 to 90 percent (dominantly fine sand or very fine sand)

Depth to carbonates (if they occur): 0 to 40 inches

Ap and A horizons:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 to 3

Texture—fine sandy loam or very fine sandy loam

Bw horizon and BC horizon (if it occurs):

Hue—10YR

Value—4 to 6

Chroma—2 to 4

Texture—loam, fine sandy loam, very fine sandy loam, sandy loam, loamy fine sand, or loamy very fine sand; stratified in many pedons

Content of rock fragments—0 to 10 percent fine gravel

C horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—1 to 4

Texture—sand, fine sand, very fine sand, loamy sand, loamy fine sand, loamy very fine sand, sandy loam, fine sandy loam, very fine sandy loam, loam, or silt loam; stratified in many pedons

Content of rock fragments—0 to 10 percent fine gravel

2304B—Landes-Fluents-Urban land complex, 2 to 5 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Position on the landform: Natural levees and low terraces

Component Properties and Qualities

Landes

Drainage class: Well drained

Dominant parent material: Loamy and sandy alluvium

Flooding frequency: Occasional

Fluents

- Fluents consist of soil materials that have been

altered by flooding and by extensive leveling, cutting, and filling. Individual soil horizons are generally no longer distinguishable.

Urban land

- Urban land consists of areas covered by surfaces or structures that so obscure or alter the soils that identification of the soil series is not possible. Urban land consists mostly of shopping centers, industrial plants, other commercial sites, and streets and parking lots.

Map Unit Composition

Landes and similar soils: 40 percent

Fluents: 30 percent

Urban land: 20 percent

Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that contain more or less sand throughout than the Landes soil
- Soils that contain more clay in the substratum than the Landes soil

Dissimilar components:

- The somewhat poorly drained Nameoki and Shaffton soils in the lower landform positions
- The poorly drained Beaucoup and Fults soils in depressions and along sloughs

8304B—Landes very fine sandy loam, 2 to 5 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Position on the landform: Natural levees and low terraces

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Loamy and sandy alluvium

Flooding frequency: Occasional

Map Unit Composition

Landes and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain more or less sand throughout than the Landes soil
- Soils that contain more clay in the substratum than the Landes soil

Dissimilar soils:

- The somewhat poorly drained Nameoki and Shaffton soils in the lower landform positions
- The poorly drained Fults soils in depressions and along sloughs

Lawson Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls

Typical Pedon

Lawson silt loam, in a nearly level area in a cultivated field, at an elevation of about 685 feet above mean sea level; about 0.5 mile south of Clayton, in Adams County, Illinois; approximately 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 05 seconds N. and long. 90 degrees 57 minutes 53 seconds W., NAD 27:

- 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 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 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 distinct 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 distinct 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 distinct 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 distinct yellowish brown (10YR 5/6) masses of iron accumulation throughout, 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

Reaction: Slightly acid to slightly alkaline

Content of clay in the series control section: Averages between 18 and 30 percent

Ap and A horizons:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 or 2

Texture—silt loam or silty clay loam

C or Cg horizon:

Hue—10YR or 2.5Y

Value—3 to 6

Chroma—1 to 3

Texture—silt loam or silty clay loam; some pedons are stratified with textures containing more sand

3451A—Lawson silt loam, 0 to 2 percent slopes, frequently flooded**Setting**

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Silty alluvium

Flooding frequency: Frequent

Map Unit Composition

Lawson and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a thinner or lighter colored surface layer than that of the Lawson soil
- Soils that contain more sand throughout than the Lawson soil
- Soils that have a buried soil below a depth of 60 inches

Dissimilar soils:

- The poorly drained Beaucoup and Birds soils in the lower landform positions

Littleton Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls

Typical Pedon

Littleton silt loam, in a nearly level area in a cultivated field, at an elevation of about 425 feet above mean sea level; about 1 mile north of Caseyville, in St. Clair County, Illinois; approximately 2,042 feet west and 2,010 feet north of the southeast corner of sec. 6, T. 2 N., R. 8 W.; USGS Monks Mound, Illinois, topographic quadrangle; lat. 38 degrees 38 minutes 55 seconds N. and long. 90 degrees 01 minute 45 seconds W., NAD 27:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak medium granular structure; friable; common very fine and few fine roots; few fine tubular pores; few fine and medium rounded black (N 2.5/0) iron-manganese nodules with sharp boundaries; about 21 percent clay; slightly acid; abrupt smooth boundary.

A—10 to 21 inches; very dark brown (10YR 2/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; very friable; many very fine and few fine roots; common very fine and fine tubular pores; about 23 percent clay; slightly acid; clear smooth boundary.

AB—21 to 33 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure parting to weak fine granular; friable; common very fine and few fine roots; few very fine and fine tubular pores; few

fine rounded black (10YR 2/1) iron-manganese nodules with clear boundaries; about 24 percent clay; slightly acid; clear smooth boundary.

Bw1—33 to 45 inches; dark grayish brown (10YR 4/2) silt loam; weak fine subangular blocky structure; friable; common very fine and few fine roots; common faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine faint brown (10YR 4/3) and few fine prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; few fine irregular very dark brown (7.5YR 2.5/2) masses of iron-manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; about 25 percent clay; slightly acid; gradual smooth boundary.

Bw2—45 to 58 inches; brown (10YR 4/3) silt loam; weak medium angular blocky structure; friable; few very fine roots; few very fine and fine tubular pores; few faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine faint dark grayish brown (10YR 4/2) iron depletions and few fine prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; common fine and medium irregular very dark brown (7.5YR 2.5/2) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 5/6) boundaries; about 26 percent clay; neutral; gradual smooth boundary.

C—58 to 80 inches; dark yellowish brown (10YR 4/4) silt loam; massive; friable; few very fine roots; common fine tubular pores; common medium distinct grayish brown (10YR 5/2) iron depletions and common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular very dark brown (7.5YR 2.5/2) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 5/6) boundaries; about 23 percent clay; neutral.

Range in Characteristics

Depth to the base of the cambic horizon: 30 to 62 inches

Thickness of the mollic epipedon: 24 to 36 inches; the mollic epipedon extends into the upper part of the Bw horizon in some pedons

Other features: Some pedons have a BA horizon, and some pedons have a BC horizon.

Ap and A horizons:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 to 3

Texture—silt loam

Bw or Bg horizon:

Hue—10YR or 2.5Y

Value—3 to 5

Chroma—2 or 3

Texture—silt loam; thin subhorizons of silty clay loam in some pedons

C or Cg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 4

Texture—silt loam; some pedons have thin subhorizons of silty clay loam that contain less than 30 percent clay

7081A—Littleton silt loam, 0 to 2 percent slopes, rarely flooded***Setting****Landform:* Alluvial fans***Soil Properties and Qualities****Drainage class:* Somewhat poorly drained*Dominant parent material:* Silty local alluvium*Flooding frequency:* Rare***Map Unit Composition***

Littleton and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components*Similar soils:*

- Soils that have a thinner mollic epipedon than that of the Littleton soil
- Soils that contain more sand throughout than the Littleton soil
- Soils that have a dark buried soil

Dissimilar soils:

- The well drained Raddle and Worthen soils on the higher footslopes
- The poorly drained Beaucoup soils in depressions

Marine Series*Taxonomic classification:* Fine, smectitic, mesic Aeric Albaqualfs***Typical Pedon***

Marine silt loam, on a slope of 1 percent on a broad, slightly convex summit in a cultivated field, at an elevation of about 500 feet above sea level; about 3 miles south of Highland, in Madison County, Illinois; approximately 2,030 feet east and 650 feet south of

the northwest corner of sec. 21, T. 3 N., R. 5 W.; USGS St. Jacob, Illinois, topographic quadrangle; lat. 38 degrees 41 minutes 18 seconds N. and long. 89 degrees 46 minutes 14 seconds W., NAD 27:

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many very fine roots; few very fine continuous tubular pores; few fine rounded black (N 2.5/0) iron-manganese nodules with sharp boundaries; strongly acid; abrupt smooth boundary.

E—9 to 17 inches; light brownish gray (10YR 6/2) silt loam, white (10YR 8/1) dry; weak thin platy structure; friable; common very fine roots; few very fine continuous pores; few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine rounded black (N 2.5/0) iron-manganese nodules with sharp boundaries; very strongly acid; abrupt smooth boundary.

Bt1—17 to 25 inches; brown (10YR 4/3) silty clay; moderate medium prismatic structure parting to strong fine angular blocky; very firm; common very fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine faint grayish brown (10YR 5/2) iron depletions and few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; common fine and medium rounded black (5YR 2.5/1) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; very strongly acid; clear smooth boundary.

Bt2—25 to 34 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; very firm; few very fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine distinct grayish brown (2.5Y 5/2) iron depletions and common medium prominent brownish yellow (10YR 6/8) masses of iron accumulation in the matrix; common fine and medium rounded dark reddish brown (5YR 2.5/2) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; very strongly acid; clear smooth boundary.

Btg1—34 to 43 inches; grayish brown (10YR 5/2) silty clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common medium prominent light olive brown (2.5Y 5/4) and common coarse prominent brownish yellow (10YR 6/8) masses of iron accumulation in the matrix; few medium rounded

black (N 2.5/0) iron-manganese nodules with strong brown (7.5YR 4/6) boundaries; very strongly acid; clear smooth boundary.

Btg₂—43 to 52 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak coarse prismatic structure; firm; few very fine roots; many faint grayish brown (2.5Y 5/2) clay films on faces of peds; common coarse prominent brownish yellow (10YR 6/8) and common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few fine and medium rounded black (10YR 2/1) iron-manganese nodules with sharp boundaries; slightly acid; gradual smooth boundary.

BCtg—52 to 62 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse subangular blocky structure; friable; few faint grayish brown (2.5Y 5/2) clay films on vertical faces of peds and few distinct dark grayish brown (10YR 4/2) clay films in root channels and in pores; common coarse prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few fine and medium rounded black (10YR 2/1) iron-manganese nodules with sharp boundaries; slightly acid; gradual smooth boundary.

2C—62 to 80 inches; brown (7.5YR 5/3) silt loam; massive; friable; many medium faint brown (7.5YR 5/2) iron depletions and many coarse distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine irregular black (10YR 2/1) iron-manganese nodules with sharp boundaries; about 8 percent sand; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 42 to more than 80 inches

Thickness of the loess: 50 to more than 80 inches

Texture of the particle-size control section: Averages between 35 and 48 percent clay and less than 7 percent sand

Other features: Some pedons have a B/E horizon, which is about 2 or 3 inches thick. In pedons that have less than 80 inches of loess, the lower part of the soil formed in silty pediment that contains a component of sand and/or in the underlying Illinoian till that commonly contains a strongly developed paleosol. These horizons or strata typically are silt loam, loam, silty clay loam, or clay loam.

Ap horizon:

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 or 3

Texture—silt loam

E horizon:

Hue—10YR

Value—5 to 7 (6 to 8 dry)

Chroma—1 or 2

Texture—silt or silt loam

Bt horizon:

Hue—10YR or 2.5Y

Value—4 to 7

Chroma—3 or 4

Texture—silty clay loam or silty clay

Btg horizon:

Hue—10YR or 2.5Y

Value—4 to 7

Chroma—1 or 2

Texture—silty clay loam or silty clay; grades to silt loam in the lower part in some pedons

BCtg or BCg horizon (if it occurs):

Hue—10YR or 2.5Y

Value—4 to 7

Chroma—1 or 2

Texture—silty clay loam or silt loam

C or 2C horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—5 to 7

Chroma—1 to 3

Texture—silt loam or loam

517A—Marine silt loam, 0 to 2 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Slightly convex summits

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Loess; or loess and the underlying silty pediment

Flooding: None

Map Unit Composition

Marine and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Marine soil
- Soils that contain a concentration of exchangeable sodium in the subsoil
- Soils that do not have an abrupt textural change between the subsurface layer and the subsoil

Dissimilar soils:

- The poorly drained Pierron soils at the head of drainageways and in slight depressions

517B—Marine silt loam, 2 to 5 percent slopes***Setting****Landform:* Loess-covered till plains*Position on the landform:* Convex summits***Soil Properties and Qualities****Drainage class:* Somewhat poorly drained*Dominant parent material:* Loess; or loess and the underlying silty pediment*Flooding:* None***Map Unit Composition***

Marine and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components*Similar soils:*

- Soils that contain less clay in the subsoil than the Marine soil
- Soils that contain a concentration of exchangeable sodium in the subsoil
- Soils that do not have an abrupt textural change between the subsurface layer and the subsoil
- Areas of soils that are moderately eroded

Dissimilar soils:

- The poorly drained Pierron soils at the head of drainageways and in slight depressions
- The moderately well drained Homen soils in the more convex landform positions

Mascoutah Series*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Endoaquolls***Typical Pedon***

Mascoutah silty clay loam, in a nearly level area in a cultivated field, at an elevation of about 428 feet above mean sea level; about 0.5 mile north of Mascoutah, in St. Clair County, Illinois; approximately 500 feet west and 75 feet south of the center of sec. 30, T. 1 N., R. 6 W.; USGS Lebanon, Illinois, topographic quadrangle; lat. 38 degrees 30 minutes 04 seconds N. and long. 89 degrees 48 minutes 30 seconds W., NAD 27:

Ap—0 to 9 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate coarse

granular structure; friable; many very fine and few fine roots; few fine rounded strong brown (7.5YR 5/6) iron-manganese nodules with sharp boundaries; about 29 percent clay; neutral; abrupt smooth boundary.

A—9 to 16 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure parting to moderate medium granular; friable; many very fine roots; few fine rounded strong brown (7.5YR 5/6) iron-manganese nodules with sharp boundaries; about 30 percent clay; neutral; clear smooth boundary.

AB—16 to 21 inches; very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure; firm; common very fine roots; common continuous distinct black (10YR 2/1) organic coatings on faces of peds; few fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; few fine and medium rounded black (7.5YR 2.5/1) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; about 31 percent clay; neutral; clear smooth boundary.

Bg—21 to 32 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; common very fine roots; many continuous distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; common fine and medium rounded black (7.5YR 2.5/1) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; about 32 percent clay; neutral; clear smooth boundary.

Btg1—32 to 44 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common patchy distinct dark gray (10YR 4/1) clay films on faces of peds; common fine and medium prominent light olive brown (2.5Y 5/6) masses of iron accumulation in the matrix; few fine and medium rounded black (7.5YR 2.5/1) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; about 31 percent clay; neutral; gradual smooth boundary.

Btg2—44 to 58 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots; few continuous distinct very dark gray (10YR 3/1) organo-clay films lining pores and channels; few patchy distinct dark gray (10YR 4/1) clay films on faces of peds; few 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) iron-manganese nodules with diffuse strong brown (7.5YR 4/6) boundaries and few fine and medium irregular dark reddish brown (5YR 3/4) masses of iron-manganese accumulation; very dark gray (10YR 3/1) krotovina; about 29 percent clay; neutral; gradual smooth boundary.

BCtg—58 to 66 inches; light brownish gray (2.5Y 6/2) silt loam; weak medium subangular blocky structure; friable; few continuous prominent very dark gray (10YR 3/1) organo-clay films lining pores and channels; common fine and medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine and medium irregular very dark brown (7.5YR 2.5/2) and few medium irregular dark reddish brown (5YR 3/4) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 4/6) boundaries; about 25 percent clay; slightly effervescent; slightly alkaline; gradual smooth boundary.

Cg—66 to 80 inches; gray (5Y 6/1) silt loam; massive; very friable; few continuous prominent very dark gray (10YR 3/1) organo-clay films lining pores and channels; common medium and coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine and medium irregular very dark brown (7.5YR 2.5/2) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 4/6) boundaries; about 23 percent clay; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the loess: 80 inches or more

Thickness of the mollic epipedon: 12 to 24 inches; the mollic epipedon extends into the upper part of the B horizons in some pedons

Texture of the particle-size control section: Averages between 27 and 35 percent clay and less than 7 percent sand

Depth to carbonates (if they occur): Carbonates typically occur in the Cg horizon, but in some pedons they are in the lower part of the B horizon (below a depth of 40 inches).

Ap and A horizons and AB horizon (if it occurs):

Hue—10YR, 2.5Y, 5Y, or N

Value—2 or 3 (3 or 4 dry)

Chroma—0 or 1

Texture—silty clay loam

Bg and Btg horizons:

Hue—10YR, 2.5Y, 5Y, or N

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

Chroma—0 to 2

Texture—silty clay loam; silt loam in the lower part in some pedons

BCg or BCtg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay loam or silt loam

Cg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—5 or 6

Chroma—0 to 2

Texture—silt loam; silty clay loam in the upper part in some pedons

385A—Mascoutah silty clay loam, 0 to 2 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Nearly level or depressional parts of broad interfluves

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Mascoutah and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the surface layer than the Mascoutah soil
- Soils that contain more clay in the subsoil than the Mascoutah soil

Dissimilar soils:

- The well drained Wakenda soils in the higher landform positions

Menfro Series

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

Typical Pedon

Menfro silt loam, in a gently sloping area in a cultivated field, at an elevation of about 560 feet above mean sea level; about 1.5 miles northwest of O'Fallon,

in St. Clair County, Illinois; approximately 1,500 feet north and 1,500 feet east of the center of sec. 24, T. 2 N., R. 8 W.; USGS O'Fallon, Illinois, topographic quadrangle; lat. 38 degrees 36 minutes 42 seconds N. and long. 89 degrees 55 minutes 58 seconds W., NAD 27:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate very fine granular structure; friable; many very fine and few fine roots; about 22 percent clay; moderately acid; abrupt smooth boundary.

E—7 to 10 inches; yellowish brown (10YR 5/4) silt loam, light yellowish brown (10YR 6/4) dry; moderate medium platy structure parting to moderate very fine subangular blocky; friable; common very fine roots; common fine continuous tubular pores; about 24 percent clay; moderately acid; abrupt smooth boundary.

Bt1—10 to 18 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; firm; common very fine roots; few fine continuous tubular pores; many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; about 32 percent clay; moderately acid; clear smooth boundary.

Bt2—18 to 35 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; common very fine roots; few fine continuous tubular pores; many distinct brown (10YR 4/3) clay films on faces of peds; about 31 percent clay; moderately acid; gradual smooth boundary.

Bt3—35 to 50 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; few very fine and fine continuous tubular pores; common distinct brown (10YR 4/3) clay films on faces of peds; about 30 percent clay; moderately acid; gradual smooth boundary.

Bt4—50 to 62 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium subangular blocky structure; friable; few very fine roots; few very fine and fine vesicular and tubular pores; few distinct brown (10YR 4/3) clay films on vertical faces of peds; about 28 percent clay; moderately acid; gradual smooth boundary.

BC—62 to 70 inches; dark yellowish brown (10YR 4/4) silt loam; weak coarse subangular blocky structure; friable; few very fine roots; common very fine and fine vesicular and tubular pores; few distinct brown (10YR 4/3) clay films lining root channels and pores; about 24 percent clay; slightly acid; gradual smooth boundary.

C—70 to 80 inches; dark yellowish brown (10YR 4/4)

silt loam; massive; very friable; few very fine roots; common very fine and fine vesicular and tubular pores; very few faint brown (10YR 4/3) clay films lining root channels and pores; about 20 percent clay; slightly acid.

Range in Characteristics

Thickness of the solum: 30 to 100 inches; typically 50 to 70 inches

Thickness of the loess: 6 to more than 20 feet

Texture of the particle-size control section: Averages between 27 and 35 percent clay and less than 7 percent sand

Other features: Pedons in undisturbed areas have an A horizon. This horizon is 1 to 4 inches thick.

Ap horizon:

Hue—10YR

Value—3 to 5 (6 or 7 dry)

Chroma—2 to 4

Texture—silt loam

A horizon (if it occurs):

Hue—10YR

Value—2 to 4 (4 to 6 dry)

Chroma—2 or 3

E horizon (if it occurs):

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—3 or 4

Texture—silt loam

BE horizon (if it occurs):

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 or 4

Texture—silt loam or silty clay loam

Bt horizon:

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—silty clay loam

C horizon:

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 or 4

Texture—silt loam or silty clay loam

79B—Menfro silt loam, 2 to 5 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Convex summits

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Menfro and similar soils: 90 percent

Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Menfro soil
- Soils that contain carbonates in the substratum
- Soils that are moderately eroded; near the edge of the mapped areas

Dissimilar components:

- The somewhat poorly drained Caseyville soils in depressions at the head of drainageways
- Areas where the natural soil has been disturbed by development

79C2—Menfro silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Convex summits, shoulders, and backslopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Menfro and similar soils: 90 percent

Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Menfro soil
- Soils that contain carbonates in the substratum
- Areas of soils that are severely eroded

Dissimilar components:

- The somewhat poorly drained Caseyville soils in depressions at the head of drainageways
- Areas where the natural soil has been disturbed by development

79C3—Menfro silty clay loam, 5 to 10 percent slopes, severely eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Erosional side slopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Menfro and similar soils: 90 percent

Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Menfro soil
- Soils that contain carbonates in the substratum
- Areas of soils that are less eroded than the Menfro soil

Dissimilar components:

- The somewhat poorly drained Caseyville soils in depressions at the head of drainageways
- Areas where the natural soil has been disturbed by development

79D2—Menfro silt loam, 10 to 18 percent slopes, eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Side slopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Menfro and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Menfro soil
- Soils that contain carbonates in the substratum
- Areas of soils that are severely eroded

Dissimilar soils:

- The moderately well drained Winfield soils in landform positions similar to those of the Menfro soil
- The somewhat poorly drained Wakeland soils on narrow flood plains

79D3—Menfro silty clay loam, 10 to 18 percent slopes, severely eroded***Setting****Landform:* Loess-covered till plains*Position on the landform:* Erosional side slopes***Soil Properties and Qualities****Drainage class:* Well drained*Dominant parent material:* Loess*Flooding:* None***Map Unit Composition***

Menfro and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components*Similar soils:*

- Soils that contain less clay in the subsoil than the Menfro soil
- Soils that contain carbonates in the substratum
- Areas of soils that are less eroded than the Menfro soil

Dissimilar soils:

- The moderately well drained Winfield soils in landform positions similar to those of the Menfro soil
- The somewhat poorly drained Wakeland soils on narrow flood plains

79F—Menfro silt loam, 18 to 35 percent slopes***Setting****Landform:* Loess-covered till plains*Position on the landform:* Side slopes***Soil Properties and Qualities****Drainage class:* Well drained*Dominant parent material:* Loess*Flooding:* None***Map Unit Composition***

Menfro and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components*Similar soils:*

- Soils that contain less clay in the subsoil than the Menfro soil
- Soils that contain carbonates in the substratum
- Areas of soils that are eroded

Dissimilar soils:

- The well drained Hickory soils on the lower side slopes
- The somewhat poorly drained Wakeland soils on narrow flood plains

79F3—Menfro silty clay loam, 18 to 35 percent slopes, severely eroded***Setting****Landform:* Loess-covered till plains*Position on the landform:* Erosional side slopes***Soil Properties and Qualities****Drainage class:* Well drained*Dominant parent material:* Loess*Flooding:* None***Map Unit Composition***

Menfro and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components*Similar soils:*

- Soils that contain less clay in the subsoil than the Menfro soil
- Soils that contain carbonates in the substratum
- Areas of soils that are less eroded than the Menfro soil

Dissimilar soils:

- The well drained Hickory soils on the lower side slopes
- The somewhat poorly drained Wakeland soils on narrow flood plains

79G—Menfro silt loam, 35 to 60 percent slopes***Setting****Landform:* Loess-covered till plains*Position on the landform:* Side slopes***Soil Properties and Qualities****Drainage class:* Well drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Menfro and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Menfro soil
- Soils that contain carbonates in the substratum
- Areas of soils that are eroded

Dissimilar soils:

- The well drained Hickory soils on the lower side slopes
- The somewhat poorly drained Wakeland soils on narrow flood plains

701F—Menfro-Hickory silt loams, 18 to 35 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Side slopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Menfro—loess; Hickory—glacial till

Flooding: None

Map Unit Composition

Menfro and similar soils: 50 percent

Hickory and similar soils: 40 percent

Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil
- Soils that contain carbonates in the substratum
- Areas of soils that are eroded

Dissimilar components:

- The somewhat poorly drained Wakeland soils on narrow flood plains
- Areas of rock outcrop at the base of slopes

2079D—Menfro-Orthents-Urban land complex, 8 to 15 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Side slopes

Component Properties and Qualities

Menfro

Drainage class: Well drained

Dominant parent material: Loess

Flooding: None

Orthents

- Orthents consist of soil materials that have been altered by extensive leveling, cutting, and filling. Individual soil horizons are generally no longer distinguishable.

Urban land

- Urban land consists of areas covered by surfaces or structures that so obscure or alter the soils that identification of the soil series is not possible. Urban land consists mostly of shopping centers, industrial plants, other commercial sites, and streets and parking lots.

Map Unit Composition

Menfro and similar soils: 40 percent

Orthents: 30 percent

Urban land: 20 percent

Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Menfro soil
- Soils that contain carbonates in the substratum
- Areas of soils that are eroded

Dissimilar components:

- The somewhat poorly drained Caseyville soils in depressions
- The somewhat poorly drained Wakeland soils on narrow flood plains

Nameoki Series

Taxonomic classification: Fine, smectitic, mesic
Aquertic Hapludolls

Typical Pedon

Nameeki silty clay, on a slope of 1 percent, on a gently undulating flood plain in a cultivated field, at an elevation of about 410 feet above mean sea level; about 1.5 miles northwest of Mitchell, in Madison County, Illinois; approximately 1,900 feet south and 1,930 feet east of the northwest corner of sec. 28, T. 4 N., R. 9 W.; USGS Wood River, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 46 minutes 07 seconds N. and long. 90 degrees 06 minutes 28 seconds W., NAD 27:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silty clay, dark grayish brown (10YR 4/2) dry; moderate fine angular blocky structure; firm; common very fine roots; neutral; abrupt smooth boundary.

A—8 to 12 inches; very dark grayish brown (10YR 3/2) silty clay, dark grayish brown (10YR 4/2) dry; strong fine angular blocky structure; very firm; common very fine roots; common faint very dark grayish brown (10YR 3/2) pressure faces on faces of peds; neutral; clear smooth boundary.

Bw1—12 to 16 inches; very dark grayish brown (10YR 3/2) silty clay, grayish brown (10YR 5/2) dry; strong fine and medium angular blocky structure; very firm; few very fine roots; many distinct very dark grayish brown (10YR 3/2) pressure faces on faces of peds; few fine faint brown (10YR 5/3) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

Bw2—16 to 28 inches; brown (10YR 4/3) silty clay; moderate fine prismatic structure parting to strong fine and medium angular blocky; very firm; few very fine roots; many distinct dark grayish brown (10YR 4/2) pressure faces on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions and few fine faint yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

2Btg1—28 to 41 inches; dark grayish brown (10YR 4/2), stratified clay loam and silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; common very fine roots; common very fine and fine continuous tubular pores; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine prominent dark yellowish brown (10YR 4/6) and few fine faint brown (10YR 5/3) masses of iron accumulation in the matrix; few fine irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation; slightly acid; gradual smooth boundary.

2Btg2—41 to 48 inches; dark grayish brown (10YR 4/2), stratified silt loam and silty clay loam; weak medium prismatic structure parting to weak fine and medium subangular blocky; firm; common very fine roots; few very fine and fine continuous tubular pores; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine prominent yellowish brown (10YR 5/6) and few fine faint brown (10YR 5/3) masses of iron accumulation in the matrix; common fine irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation; neutral; clear smooth boundary.

2BCg—48 to 54 inches; dark grayish brown (2.5Y 4/2), stratified silt loam and loam; weak medium subangular blocky structure; friable; few very fine roots; common fine and medium continuous tubular pores; few distinct very dark grayish brown (10YR 3/2) organo-clay films lining root channels and pores; common medium faint olive brown (2.5Y 4/3) masses of iron accumulation in the matrix; common fine irregular brown (7.5YR 4/4) masses of iron-manganese accumulation; neutral; gradual smooth boundary.

2Cg—54 to 72 inches; grayish brown (2.5Y 5/2), stratified silt loam and very fine sandy loam; massive; very friable; few very fine roots; common very fine and fine tubular and vesicular pores; common fine faint olive brown (2.5Y 4/3) masses of iron accumulation in the matrix; few fine irregular brown (7.5YR 4/4) masses of iron-manganese accumulation; neutral; abrupt smooth boundary.

2Ckg—72 to 80 inches; grayish brown (2.5Y 5/2), stratified very fine sandy loam and silt loam; massive; friable; few very fine and fine vesicular pores; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular light gray (10YR 7/2) masses of carbonate accumulation and few medium irregular light brownish gray (10YR 6/2) carbonate concretions; strongly effervescent; slightly alkaline.

Range in Characteristics

Depth to the base of soil development: 40 to about 72 inches

Thickness of the mollic epipedon: 10 to 20 inches; the mollic epipedon extends into the upper part of the B horizon in many pedons

Depth to the loamy 2B horizon: 24 to 40 inches

Depth to carbonates: These soils typically do not have carbonates within the particle-size control section, but some pedons contain carbonates in the loamy alluvium.

Other features: Some pedons have an AB or a BA horizon.

Ap and A horizons:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 or 2

Texture—silty clay loam or silty clay

Bw or Bg horizon:

Hue—10YR or 2.5Y

Value—3 to 6

Chroma—2 to 4

Texture—silty clay or clay; some subhorizons are silty clay loam or clay loam that contains more than 35 percent clay

2Bw, 2Bg, or 2Btg horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4 in the upper part; 1 to 4 in the lower part

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

2C, 2Cg, or 2Ckg horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 3

Texture—stratified; individual strata range from silty clay loam to very fine sand

2592A—Nameoki-Fluents-Urban land complex, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Gently undulating flood plains

Component Properties and Qualities

Nameoki

Drainage class: Somewhat poorly drained

Dominant parent material: Slackwater sediments and the underlying stratified loamy or sandy alluvium

Flooding frequency: Occasional

Fluents

- Fluents consist of soil materials that have been altered by flooding and by extensive leveling, cutting,

and filling. Individual soil horizons are generally no longer distinguishable.

Urban land

- Urban land consists of areas covered by surfaces or structures that so obscure or alter the soils that identification of the soil series is not possible. Urban land consists mostly of shopping centers, industrial plants, other commercial sites, and streets and parking lots.

Map Unit Composition

Nameoki and similar soils: 40 percent

Fluents: 30 percent

Urban land: 20 percent

Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that have a thinner dark surface layer than that of the Nameoki soil
- Soils that contain more sand in the subsoil than the Nameoki soil
- Soils that contain carbonates in the subsoil

Dissimilar components:

- The poorly drained Darwin and Fults soils in the lower landform positions
- The well drained Landes soils on the higher natural levees

3592A—Nameoki silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Gently undulating flood plains

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Slackwater sediments and the underlying stratified loamy or sandy alluvium

Flooding frequency: Frequent

Map Unit Composition

Nameoki and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a thinner dark surface layer than that of the Nameoki soil
- Soils that contain more sand in the subsoil than the Nameoki soil
- Soils that contain carbonates in the subsoil

Dissimilar soils:

- The poorly drained Fults and Darwin soils in the lower landform positions
- The somewhat excessively drained Rocher soils on the higher natural levees

8592A—Nameoki silty clay, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Gently undulating flood plains

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Slackwater sediments and the underlying stratified loamy or sandy alluvium

Flooding frequency: Occasional

Map Unit Composition

Nameoki and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a thinner dark surface layer than that of the Nameoki soil
- Soils that contain more sand in the subsoil than the Nameoki soil
- Soils that contain carbonates in the subsoil

Dissimilar soils:

- The poorly drained Ambraw and Fults soils in the lower landform positions
- The well drained Landes soils on the higher natural levees

Navlys Series

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

Typical Pedon

Navlys silty clay loam, in a strongly sloping area in a pasture, at an elevation of about 540 feet above mean sea level; about 2.5 miles southwest of Edwardsville, in Madison County, Illinois; approximately 1,300 feet south and 700 feet west of the northeast corner of sec. 28, T. 4 N., R. 8 W.; USGS Edwardsville, Illinois, topographic quadrangle; lat. 38 degrees 45 minutes 36 seconds N. and long. 89 degrees 59 minutes 43 seconds W., NAD 27:

Ap—0 to 5 inches; dark yellowish brown (10YR 4/4)

silty clay loam, light yellowish brown (10YR 6/4) dry; moderate fine subangular blocky structure; friable; many very fine and common fine roots; slightly acid; abrupt smooth boundary.

Bt1—5 to 16 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; many very fine and few fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine distinct strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; few fine irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation; moderately acid; clear smooth boundary.

Bt2—16 to 26 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium subangular blocky structure; friable; common very fine and few fine roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine and medium distinct light brownish gray (10YR 6/2) iron depletions and common fine distinct strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; common fine and medium irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation; moderately acid; clear smooth boundary.

BC—26 to 34 inches; yellowish brown (10YR 5/4) silt loam; weak coarse subangular blocky structure; friable; few very fine roots; few prominent brown (10YR 4/3) clay films lining vertical channels; common fine and medium distinct light brownish gray (10YR 6/2) iron depletions and common medium and coarse distinct strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; common fine and medium irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation; slightly effervescent; slightly alkaline; clear smooth boundary.

C1—34 to 44 inches; light brownish gray (2.5Y 6/2) silt loam; massive; very friable; few very fine roots; few prominent brown (10YR 4/3) clay films lining vertical channels; many coarse 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 iron-manganese accumulation; strongly effervescent; slightly alkaline; clear smooth boundary.

C2—44 to 68 inches; light brownish gray (2.5Y 6/2) silt loam; massive; very friable; few very fine roots; common medium and coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine irregular very dark brown (7.5YR 2.5/2) masses of iron-manganese accumulation; common medium and coarse light

gray (10YR 7/2) carbonate concretions; strongly effervescent; slightly alkaline; gradual smooth boundary.

C3—68 to 80 inches; light olive brown (2.5Y 5/3) silt loam; massive; very friable; common fine and medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; few fine irregular dark brown (7.5YR 3/2) masses of iron-manganese accumulation; strongly effervescent; slightly alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 22 to 40 inches

Thickness of the loess: 80 inches or more

Content of clay in the particle-size control section:

Averages between 25 and 35 percent

Depth to carbonates: 22 to 40 inches

Other features: Some pedons have a BE horizon.

Ap or A horizon:

Hue—10YR

Value—3 to 5 (5 or 6 dry)

Chroma—2 to 4

Texture—silty clay loam

Bt horizon and BC horizon (if it occurs):

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—typically silty clay loam; silt loam in subhorizons of some pedons

C horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silt loam

630D3—Navlys silty clay loam, 10 to 18 percent slopes, severely eroded

Setting

Landform: Loess bluffs and loess-covered till plains

Position on the landform: Erosional side slopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Calcareous loess

Flooding: None

Map Unit Composition

Navlys and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that are calcareous at or near the surface
- Areas of soils that are less eroded than the Navlys soil
- Soils that have slopes of more than 18 percent or less than 10 percent

Dissimilar soils:

- The well drained Drury and Raddle soils on footslopes
- The somewhat poorly drained Wakeland soils on narrow flood plains

Negley Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Paleudalfs

Typical Pedon

Negley loam, in a strongly sloping area of mixed hardwoods, at an elevation of about 600 feet above mean sea level; about 1 mile southeast of Grantfork, in Madison County, Illinois; approximately 540 feet west and 1,160 feet north of the southeast corner of sec. 4, T. 4 N., R. 5 W.; USGS Grantfork, Illinois, topographic quadrangle; lat. 38 degrees 49 minutes 10 seconds N. and long. 89 degrees 39 minutes 24 seconds W., NAD 27:

A—0 to 3 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many very fine and few fine roots; less than 5 percent gravel; moderately acid; clear smooth boundary.

E—3 to 7 inches; yellowish brown (10YR 5/4) loam, very pale brown (10YR 7/4) dry; weak fine granular structure; friable; common very fine and few fine roots; about 10 percent gravel; strongly acid; clear smooth boundary.

Bt1—7 to 12 inches; yellowish red (5YR 5/6) clay loam; moderate coarse subangular blocky structure; firm; common very fine and few fine roots; common distinct reddish brown (5YR 4/4) clay films on faces of peds; about 10 percent gravel; strongly acid; clear smooth boundary.

Bt2—12 to 22 inches; yellowish red (5YR 5/6) clay loam; moderate coarse subangular blocky structure; firm; common very fine and few fine roots; distinct reddish brown (5YR 4/4) clay films on faces of peds; about 10 percent gravel; strongly acid; clear smooth boundary.

Bt3—22 to 32 inches; yellowish red (5YR 5/6) clay loam; moderate coarse subangular blocky

structure; firm; few very fine and fine roots; many distinct reddish brown (5YR 4/4) clay films on faces of peds; about 10 percent gravel; strongly acid; clear smooth boundary.

- Bt4—32 to 39 inches; strong brown (7.5YR 5/6) clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; many distinct reddish brown (5YR 4/4) clay films on faces of peds; common medium distinct yellowish red (5YR 5/6) masses of iron accumulation in the matrix; about 10 percent gravel; strongly acid; clear smooth boundary.
- Bt5—39 to 50 inches; strong brown (7.5YR 5/6) sandy clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct brown (7.5YR 5/4) clay films on faces of peds; common medium distinct reddish brown (5YR 4/4) and reddish yellow (7.5YR 6/8) masses of iron accumulation in the matrix; about 10 percent gravel; moderately acid; clear smooth boundary.
- Bt6—50 to 65 inches; yellowish red (5YR 4/6) gravelly clay loam; moderate coarse subangular blocky structure; firm; few very fine roots; common distinct reddish brown (5YR 4/4) clay films on faces of peds; common medium distinct reddish yellow (7.5YR 6/8) masses of iron accumulation in the matrix; common fine irregular dark brown (7.5YR 3/2) iron-manganese nodules with clear boundaries; about 25 percent gravel; moderately acid; clear smooth boundary.
- Bt7—65 to 80 inches; yellowish red (5YR 4/6) gravelly sandy clay loam; weak coarse subangular blocky structure; firm; few very fine roots; few distinct reddish brown (5YR 4/4) clay films on faces of peds; common medium and coarse distinct reddish yellow (7.5YR 6/8) masses of iron accumulation in the matrix; common fine irregular dark brown (7.5YR 3/2) iron-manganese nodules with clear boundaries; about 30 percent gravel; moderately acid.

Range in Characteristics

Depth to the base of soil development: 80 to 150 inches

Thickness of the loess mantle: 0 to 18 inches

Content of rock fragments in the control section: 2 to 35 percent

Depth to carbonates (if they occur): Carbonates are in the C horizon.

Other features: Pedons in undisturbed areas have an A horizon. This horizon is 1 to 5 inches thick.

Ap horizon:

Hue—7.5YR or 10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 to 4

Texture—silt loam or loam

A horizon (if it occurs):

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—2

E horizon (if it occurs):

Hue—7.5YR or 10YR

Value—5 or 6 (7 or 8 dry)

Chroma—2 to 5

Texture—silt loam or loam

BE or BA horizon (if it occurs):

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—silt loam, loam, clay loam, or the gravelly analogs of these textures

Bt horizon:

Hue—2.5YR, 5YR, or 7.5YR

Value—4 or 5

Chroma—3 to 8

Texture—loam, clay loam, sandy clay loam, sandy clay, or the gravelly analogs of these textures

BC horizon (if it occurs):

Hue—5YR, 7.5YR, or 10YR

Value—4 or 5

Chroma—3 to 8

Texture—sandy clay loam, sandy loam, coarse sandy loam, clay loam, or the gravelly analogs of these textures

C horizon (if it occurs):

Hue—10YR

Value—4 or 5

Chroma—3 to 6

Texture—typically stratified; some pedons have dominant textures of coarse sandy loam, gravelly sand, gravelly sandy loam, and gravelly loamy sand; thin layers of finer textured material in some pedons

585F—Negley loam, 18 to 35 percent slopes

Setting

Landform: Crevasse fillings

Position on the landform: Side slopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Glacial outwash

Flooding: None

Map Unit Composition

Negley and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain less sand and gravel in the subsoil than the Negley soil
- Soils that contain more clay in the subsoil than the Negley soil
- Areas of soils that are eroded

Dissimilar soils:

- The somewhat poorly drained Marine and Oconee soils in the less sloping landform positions
- The somewhat poorly drained Wakeland soils on narrow flood plains

Newhaven Series

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Newhaven loam, in a nearly level area in a cultivated field, at an elevation of about 428 feet above mean sea level; about 1.5 miles southeast of South Roxana, in Madison County, Illinois; approximately 396 feet east and 2,448 feet south of the northwest corner of sec. 7, T. 4 N., R. 8 W.; USGS Wood River, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 48 minutes 42 seconds N. and long. 90 degrees 02 minutes 15 seconds W., NAD 27:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; common very fine roots; few fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation; neutral; clear smooth boundary.

A—9 to 12 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common very fine roots; few fine and medium irregular brown (7.5YR 4/4) masses of iron-manganese accumulation; neutral; clear smooth boundary.

BA—12 to 18 inches; very dark grayish brown (10YR 3/2) clay loam, grayish brown (10YR 5/2) dry; weak very fine subangular blocky structure; firm;

common very fine roots; common distinct black (10YR 2/1) organic coatings on faces of peds; few fine rounded black (10YR 2/1) iron-manganese nodules and common fine and medium irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation; moderately acid; clear smooth boundary.

Btg1—18 to 28 inches; dark grayish brown (10YR 4/2) clay loam; moderate medium subangular blocky structure; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) and few medium distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; few fine rounded black (10YR 2/1) iron-manganese nodules; moderately acid; clear smooth boundary.

Btg2—28 to 40 inches; dark grayish brown (10YR 4/2) sandy clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common medium prominent strong brown (7.5YR 4/6) and common medium distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; few fine and medium rounded black (10YR 2/1) iron-manganese nodules; moderately acid; clear smooth boundary.

BCtg—40 to 56 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; common faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common medium and coarse prominent strong brown (7.5YR 4/6) and common fine faint brown (10YR 4/3) masses of iron accumulation in the matrix; common medium irregular black (10YR 2/1) iron-manganese nodules; slightly acid; clear smooth boundary.

2CB—56 to 70 inches; brown (7.5YR 4/4) loamy fine sand; weak medium angular blocky structure; very friable; few prominent black (10YR 2/1) iron-manganese coatings in channels and pores; common medium distinct grayish brown (10YR 5/2) iron depletions and common medium distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common medium and coarse black (7.5YR 2.5/1) masses of iron-manganese accumulation; slightly acid; clear smooth boundary.

2Bt&E—70 to 80 inches; brown (7.5YR 4/4) loamy fine sand (Bt) and brown (10YR 5/3) fine sand (E); weak fine subangular blocky structure; very friable

(Bt); single grain; loose (E); few distinct brown (7.5YR 4/3) clay films on faces of pedis and bridging sand grains (Bt); slightly acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Texture of the particle-size control section: Averages between 18 and 35 percent clay and between 15 and 50 percent fine sand or coarser

Ap and A horizons:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 or 2

Texture—typically loam; the range includes fine sandy loam or silt loam

Bt horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—2 to 4

Texture—fine sandy loam, loam, clay loam, or sandy clay loam

2Bt&E or 2E&Bt horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—2 to 6

Texture—fine sandy loam, sandy loam, loamy fine sand, loamy sand, or fine sand

7445A—Newhaven loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Terraces

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Loamy and sandy alluvium

Flooding frequency: Rare

Map Unit Composition

Newhaven and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain less sand in the subsoil than the Newhaven soil
- Soils that contain less clay throughout than the Newhaven soil

Dissimilar soils:

- The well drained Onarga soils in the higher landform positions
- The poorly drained Ambraw soils in depressions

Oakville Series

Taxonomic classification: Mixed, mesic Typic Udipsamments

Typical Pedon

Oakville fine sand, in a moderately sloping area in a cultivated field, at an elevation of about 430 feet above mean sea level; about 5 miles west of Edwardsville, in Madison County, Illinois; approximately 160 feet east and 1,970 feet south of the northwest corner of sec. 18, T. 4 N., R. 8 W.; USGS Wood River, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 47 minutes 55 seconds N. and long. 90 degrees 02 minutes 17 seconds W., NAD 27:

Ap—0 to 11 inches; brown (10YR 4/3) fine sand, pale brown (10YR 6/3) dry; weak medium granular structure; loose; slightly acid; abrupt smooth boundary.

Bw1—11 to 23 inches; brown (7.5YR 4/4) fine sand; weak coarse subangular blocky structure; loose; neutral; clear smooth boundary.

Bw2—23 to 32 inches; brown (7.5YR 4/4) fine sand; weak medium subangular blocky structure; loose; neutral; clear smooth boundary.

C1—32 to 44 inches; brown (7.5YR 4/4) fine sand; single grain; loose; neutral; gradual smooth boundary.

C2—44 to 60 inches; brown (7.5YR 5/4) fine sand; single grain; loose; neutral.

Range in Characteristics

Depth to the base of soil development: 18 to 40 inches

Texture of the particle-size control section: 50 to 90 percent fine sand, 0 to 25 percent very fine sand, and less than 10 percent silt plus clay

Other features: Some pedons have a thin BE or E horizon.

Ap horizon:

Hue—10YR

Value—3 or 4 (6 or 7 dry)

Chroma—1 to 4

Texture—fine sand or loamy fine sand

Bw horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 8

Texture—fine sand or loamy fine sand

BC horizon (if it occurs):

Hue—7.5YR or 10YR

Value—5 or 6

Chroma—3 to 6

Texture—fine sand or loamy fine sand

C horizon:

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 7

Chroma—1 to 6

Texture—fine sand, loamy fine sand, sand, or loamy sand

2741B—Oakville-Psamments-Urban land complex, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Terraces

Component Properties and Qualities

Oakville

Drainage class: Well drained

Dominant parent material: Sandy alluvial sediments that commonly have been reworked by the wind; or sandy eolian deposits

Flooding frequency: Rare

Psamments

- Psamments consist of sandy soil materials that have been altered by extensive leveling, cutting, and filling. Individual soil horizons are generally no longer distinguishable.

Urban land

- Urban land consists of areas covered by surfaces or structures that so obscure or alter the soils that identification of the soil series is not possible. Urban land consists mostly of shopping centers, industrial plants, other commercial sites, and streets and parking lots.

Map Unit Composition

Oakville and similar soils: 40 percent

Psamments: 30 percent

Urban land: 20 percent

Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Oakville soil

- Soils that contain more clay in the subsoil and substratum than the Oakville soil
- Soils that have slopes of more than 5 percent or less than 2 percent

Dissimilar components:

- The somewhat poorly drained Ridgeville soils in the lower landform positions
- The poorly drained Ambraw soils on the lower lying flood plains

7741B—Oakville fine sand, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Terraces

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Sandy alluvial sediments that commonly have been reworked by the wind; or sandy eolian deposits

Flooding frequency: Rare

Map Unit Composition

Oakville and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Oakville soil
- Soils that contain more clay in the subsoil and substratum than the Oakville soil
- Soils that have slopes of more than 5 percent or less than 2 percent

Dissimilar soils:

- The somewhat poorly drained Ridgeville soils in the lower landform positions
- The poorly drained Ambraw soils on the lower lying flood plains

7741C—Oakville fine sand, 5 to 10 percent slopes, rarely flooded

Setting

Landform: Terraces

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Sandy alluvial sediments

that commonly have been reworked by the wind;
or sandy eolian deposits

Flooding frequency: Rare

Map Unit Composition

Oakville and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Oakville soil
- Soils that contain more clay in the subsoil and substratum than the Oakville soil
- Soils that have slopes of more than 10 percent or less than 5 percent

Dissimilar soils:

- The somewhat poorly drained Ridgeville soils in the lower landform positions
- The poorly drained Ambraw soils on the lower lying flood plains

Oconee Series

Taxonomic classification: Fine, smectitic, mesic Udollic Endoaqualfs

Typical Pedon

Oconee silt loam, on a north-facing slope of 4 percent in a cultivated field, at an elevation of about 560 feet above mean sea level; about 1.5 miles northwest of Grantfork, in 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., NAD 27:

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) iron-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 accumulation in the matrix; few fine and medium irregular very dark gray (5YR 3/1) iron-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-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) and few fine faint dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; few fine and medium rounded dark brown (7.5YR 3/2) iron-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) iron-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) iron-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 pedis; many distinct grayish brown (10YR 5/2) clay films on faces of pedis; 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) iron-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 pedis; many prominent very dark grayish brown (10YR 3/2) organo-clay films lining root channels and filling pores; many distinct grayish brown (10YR 5/2) clay films on faces of pedis; common medium and coarse prominent brownish yellow (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) iron-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) iron-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) iron-manganese nodules with sharp boundaries; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 42 to more than 80 inches

Thickness of the loess: 55 to about 80 inches

Texture of the particle-size control section: Averages between 35 and 42 percent clay and less than 7 percent sand

Ap or A horizon:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 or 2; 3 in some pedons in eroded areas

Texture—silt loam

E horizon:

Hue—10YR

Value—4 to 7 (6 to 8 dry)

Chroma—1 or 2; 3 in pedons that have redoximorphic features

Texture—silt loam

Bt and/or Btg horizon:

Hue—10YR in the upper part; 10YR or 2.5Y in the lower part

Value—4 to 6

Chroma—2 to 4 in the upper part; 1 to 6 in the lower part

Texture—silty clay loam or silty clay

BC or CB horizon (if it occurs):

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay loam or silt loam

C or 2C horizon (if it occurs):

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—1 to 8; typically 1 to 3

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

113A—Oconee silt loam, 0 to 2 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Summits

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Loess; or loess and the underlying silty pedis sediment

Flooding: None

Map Unit Composition

Oconee and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components*Similar soils:*

- Soils that have a dark surface layer 10 inches or more thick
- Soils that contain less clay in the subsoil than the Oconee soil

Dissimilar soils:

- The somewhat poorly drained Darmstadt soils that have a natric horizon
- The poorly drained Cowden and Piasa soils in depressions

113B—Oconee silt loam, 2 to 5 percent slopes**Setting**

Landform: Loess-covered till plains

Position on the landform: Summits

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Loess; or loess and the underlying silty pedisegment

Flooding: None

Map Unit Composition

Oconee and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components*Similar soils:*

- Soils that have a dark surface layer 10 inches or more thick
- Soils that contain less clay in the subsoil than the Oconee soil
- Areas of soils that are eroded

Dissimilar soils:

- The somewhat poorly drained Darmstadt soils that have a natric horizon
- The poorly drained Cowden and Piasa soils in depressions

882B—Oconee-Coulterville-Darmstadt silt loams, 2 to 5 percent slopes**Setting**

Landform: Loess-covered till plains

Position on the landform: Summits and interfluves

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Loess; or loess and the underlying silty pedisegment

Flooding: None

Map Unit Composition

Oconee and similar soils: 40 percent

Coulterville and similar soils: 30 percent

Darmstadt and similar soils: 20 percent

Dissimilar soils: 10 percent

Minor Components*Similar soils:*

- Soils that have a dark surface layer 10 inches or more thick
- Soils that have slopes of more than 5 percent or less than 2 percent
- Areas of soils that are eroded

Dissimilar soils:

- The poorly drained Burksville, Cowden, and Piasa soils in the lower landform positions

2113B—Oconee-Orthents-Urban land complex, 2 to 5 percent slopes**Setting**

Landform: Loess-covered till plains

Position on the landform: Summits

Component Properties and Qualities**Oconee**

Drainage class: Somewhat poorly drained

Dominant parent material: Loess; or loess and the underlying silty pedisegment

Flooding: None

Orthents

- Orthents consist of soil materials that have been altered by extensive leveling, cutting, and filling. Individual soil horizons are generally no longer distinguishable.

Urban land

- Urban land consists of areas covered by surfaces or structures that so obscure or alter the soils that identification of the soil series is not possible. Urban land consists mostly of shopping centers, industrial plants, other commercial sites, and streets and parking lots.

Map Unit Composition

Oconee and similar soils: 40 percent
 Orthents: 30 percent
 Urban land: 20 percent
 Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that have a dark surface layer 10 inches or more thick
- Soils that contain less clay in the subsoil than the Oconee soil
- Areas of soils that are eroded

Dissimilar components:

- The somewhat poorly drained Darmstadt soils that have a natric horizon
- The poorly drained Cowden and Piasa soils in depressions

867—Oil waste land

General Definition

- This map unit consists of shallow slush pits and adjoining areas where liquid waste, primarily oil residue and byproducts from nearby oil refineries, has been dumped. The disturbed soil material surrounding the pits has been severely altered by the oil residue and supports no vegetation.

Map Unit Composition

Oil waste land: 90 percent
 Dissimilar components: 10 percent

Minor Components

Dissimilar components:

- Areas of soils that support a minimal amount of vegetation; along narrow access lanes and border areas

Onarga Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Typic Argiudolls

Typical Pedon

Onarga sandy loam, in a nearly level area in a cultivated field, at an elevation of about 429 feet above mean sea level; about 1.5 miles southeast of South Roxana, in Madison County, Illinois; approximately 240 feet west and 2,520 feet south of the northeast corner of sec. 12, T. 4 N., R. 9 W.; USGS Wood River, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 48

minutes 41 seconds N. and long. 90 degrees 02 minutes 20 seconds W., NAD 27:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) sandy loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; slightly acid; abrupt smooth boundary.

A—9 to 16 inches; very dark grayish brown (10YR 3/2) sandy loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure; friable; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; moderately acid; clear smooth boundary.

Bt1—16 to 22 inches; brown (10YR 4/3) sandy loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; strongly acid; clear smooth boundary.

Bt2—22 to 31 inches; strong brown (7.5YR 4/6) sandy loam; very weak medium prismatic structure parting to very weak medium subangular blocky; friable; few distinct brown (10YR 4/3) clay films on faces of peds; strongly acid; gradual smooth boundary.

BC—31 to 39 inches; strong brown (7.5YR 5/6) loamy sand; very weak medium prismatic structure; very friable; strongly acid; gradual smooth boundary.

C—39 to 60 inches; strong brown (7.5YR 5/6) fine sand; single grain; loose; moderately acid.

Range in Characteristics

Depth to the base of the argillic horizon: 25 to 40 inches

Texture of the particle-size control section: Averages about 15 to 18 percent clay and about 45 to 70 percent total sand

Ap and A horizons:

Hue—7.5YR or 10YR

Value—2 or 3 (3 to 5 dry)

Chroma—1 to 3

Texture—sandy loam or fine sandy loam

BA horizon (if it occurs):

Hue—7.5YR or 10YR

Value—3 to 5 (5 to 7 dry)

Chroma—2 to 6

Texture—sandy loam, fine sandy loam, or sandy clay loam

Bt horizon:

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—typically loam or sandy loam; individual

subhorizons are fine sandy loam, sandy clay loam, or clay loam

BC horizon (if it occurs):

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—sandy loam, loamy sand, fine sandy loam, or loamy fine sand

C horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—4 to 6

Texture—typically stratified loamy fine sand, fine sand, fine sandy loam, loamy sand, sand, sandy loam, loam, or silt loam

7150A—Onarga sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Terraces

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Loamy and sandy alluvium or outwash

Flooding frequency: Rare

Map Unit Composition

Onarga and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a lighter colored surface layer than that of the Onarga soil
- Soils that contain more silt throughout than the Onarga soil
- Soils that contain more clay in the upper part than the Onarga soil

Dissimilar soils:

- The somewhat poorly drained Newhaven and Ridgeville soils in the lower landform positions
- The poorly drained Ambraw soils on the lower lying flood plains

Orion Series

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

Typical Pedon

Orion silt loam, in a nearly level area in a cultivated field, at an elevation of about 470 feet above mean sea level; about 2 miles west of Marine, in Madison County, Illinois; approximately 300 feet east and 1,500 feet north of the center of sec. 30, T. 4 N., R. 6 W.; USGS Marine, Illinois, topographic quadrangle; lat. 38 degrees 46 minutes 07 seconds N. and long. 89 degrees 48 minutes 31 seconds W., NAD 27:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium granular structure; very friable; many very fine and few fine roots; few fine continuous tubular pores; about 22 percent clay; slightly acid; abrupt smooth boundary.

C1—7 to 14 inches; dark grayish brown (10YR 4/2) silt loam; massive; very friable; common very fine roots; few very fine and fine continuous tubular pores; few distinct very dark grayish brown (10YR 3/2) organic coatings lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation; about 17 percent clay; slightly acid; gradual smooth boundary.

C2—14 to 35 inches; stratified, brown (10YR 5/3) and dark grayish brown (10YR 4/2) silt loam; massive with moderate medium platy depositional strata; very friable; few very fine roots; common very fine and fine continuous tubular pores; common medium faint grayish brown (10YR 5/2) iron depletions and common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation; about 15 percent clay; moderately acid; clear smooth boundary.

Ab1—35 to 46 inches; very dark gray (10YR 3/1) silt loam; weak fine subangular blocky structure; friable; few very fine roots; few very fine continuous tubular pores; few fine faint dark gray (10YR 4/1) iron depletions in the matrix; few fine irregular dark brown (7.5YR 3/4) masses of iron-manganese accumulation; about 25 percent clay; slightly acid; clear smooth boundary.

Ab2—46 to 54 inches; very dark gray (10YR 3/1) silt loam; weak medium subangular blocky structure; friable; few very fine roots; few very fine continuous tubular pores; few medium faint dark grayish brown (10YR 4/2) masses of iron accumulation in the matrix; few fine irregular dark

brown (7.5YR 3/4) masses of iron-manganese accumulation; about 26 percent clay; slightly acid; clear smooth boundary.

Cg—54 to 66 inches; dark grayish brown (2.5Y 4/2) silt loam; massive; friable; few very fine roots; few very fine continuous tubular pores; common medium faint light brownish gray (2.5Y 6/2) and dark gray (2.5Y 4/1) iron depletions in the matrix; few fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation; about 26 percent clay; slightly acid.

Range in Characteristics

Depth to the Ab horizon: 20 to 60 inches

Texture of the particle-size control section: Averages between 10 and 18 percent clay and less than 15 percent fine sand or coarser

Reaction: Moderately acid to slightly alkaline

Ap or A horizon:

Hue—10YR

Value—3 to 5 (6 or 7 dry)

Chroma—2 or 3

Texture—dominantly silt loam; thin strata of silt, loam, very fine sandy loam, loamy very fine sand, or very fine sand in some pedons

C horizon:

Hue—10YR

Value—4 or 5

Chroma—2 or 3

Texture—dominantly silt loam; thin strata of silt, loam, very fine sandy loam, loamy very fine sand, or very fine sand in many pedons

Ab horizon and A' b horizon (if it occurs):

Hue—10YR or 2.5Y

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or silty clay loam; strata of coarser material in some pedons

Bgb and Cg horizons (if they occur):

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—typically silt loam; strata of silt, loam, very fine sandy loam, loamy very fine sand, or very fine sand in some pedons

3415A—Orion silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Silty alluvium

Flooding frequency: Frequent

Map Unit Composition

Orion and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Orion soil
- Soils that have a dark buried soil below a depth of 60 inches
- Soils that contain more clay throughout than the Orion soil

Dissimilar soils:

- The moderately well drained Wilbur soils in the higher landform positions
- The poorly drained Birds soils in depressions

8415A—Orion silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Silty alluvium

Flooding frequency: Occasional

Map Unit Composition

Orion and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Orion soil
- Soils that have a dark buried soil below a depth of 60 inches
- Soils that contain more clay throughout than the Orion soil

Dissimilar soils:

- The well drained Haymond soils in the higher landform positions
- The poorly drained Birds soils in depressions

801B—Orthents, silty, undulating**Setting**

Landform: Loess-covered till plains

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Dominant parent material: Disturbed soil material
Flooding: None

Map Unit Composition

Orthents, silty: 85 percent
 Dissimilar components: 15 percent

Minor Components

Dissimilar components:

- Areas of urban land
- Areas that are steeper than the Orthents
- Areas of soils that have loamy layers
- Areas that are subject to flooding
- Areas of well drained or moderately well drained soils
- Small bodies of water

801D—Orthents, silty, hilly**Setting**

Landform: Loess-covered till plains

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Dominant parent material: Disturbed soil material
Flooding: None

Map Unit Composition

Orthents, silty: 85 percent
 Dissimilar components: 15 percent

Minor Components

Dissimilar components:

- Areas of urban land
- Areas that are less sloping than the Orthents
- Areas of soils that have loamy layers
- Areas that are subject to flooding
- Areas of well drained or moderately well drained soils

802B—Orthents, loamy, undulating**Setting**

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Well drained
Dominant parent material: Disturbed soil material
Flooding frequency: Occasional

Map Unit Composition

Orthents, loamy: 85 percent
 Dissimilar components: 15 percent

Minor Components

Dissimilar components:

- Areas of urban land
- Areas that are steeper than the Orthents
- Areas of soils that have silty layers
- Areas of somewhat poorly drained or moderately well drained soils
- Areas that are not subject to flooding
- Small bodies of water

802D—Orthents, loamy, hilly**Setting**

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Well drained
Dominant parent material: Disturbed soil material
Flooding frequency: Occasional

Map Unit Composition

Orthents, loamy: 85 percent
 Dissimilar components: 15 percent

Minor Components

Dissimilar components:

- Areas of urban land
- Areas that are less sloping than the Orthents
- Areas of soils that have silty layers
- Areas that are not subject to flooding
- Areas of somewhat poorly drained or moderately well drained soils

Piasa Series

Taxonomic classification: Fine, smectitic, mesic Mollic Natraqualfs

Typical Pedon

Piasa silt loam, in a nearly level area in a cultivated field, at an elevation of about 630 feet above mean sea level; about 3 miles north of Hillsboro, in 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., NAD 27:

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 continuous tubular pores; few fine and medium rounded black (5YR 2.5/1) iron-manganese nodules with sharp boundaries; 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; few fine pores filled with black (10YR 2/1) soil material; light gray (10YR 7/1) (dry) clay depletions on faces of peds; common fine and medium rounded black (5YR 2.5/1) iron-manganese nodules with sharp boundaries; 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; few fine tubular pores; 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) masses of iron accumulation in the matrix; few fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation; 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, sticky; few very fine roots; few fine tubular pores; 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 very dark grayish brown (2.5Y 3/2) and few fine prominent dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; few fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation, few fine and medium irregular black (10YR 2/1) iron-manganese nodules with sharp boundaries, 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, sticky; few very fine roots; few fine tubular pores; 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 accumulation in the matrix; few fine rounded strong brown (7.5YR 5/6) masses of iron-manganese accumulation, few fine and medium irregular black (10YR 2/1) iron-manganese nodules with sharp boundaries, and common medium and coarse rounded 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, slightly sticky; 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 irregular black (10YR 2/1) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries and common medium and coarse rounded 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 irregular black (10YR 2/1) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries and few medium rounded white (10YR 8/1) carbonate concretions; slightly effervescent; slightly alkaline; clear smooth boundary.

BCtg—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) masses of iron accumulation in the matrix; common fine and medium irregular strong brown

(7.5YR 5/6) masses of iron-manganese accumulation and few fine irregular black (10YR 2/1) iron-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 vesicular pores; few prominent very dark gray (10YR 3/1) organo-clay films 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 accumulation in the matrix; few medium and coarse irregular black (10YR 2/1) iron-manganese nodules with diffuse strong brown (7.5YR 5/6) boundaries; about 10 to 15 percent sand and 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 fine vesicular pores; few prominent very dark gray (10YR 3/1) organo-clay films 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) masses of iron accumulation in the matrix; few fine and medium irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation; about 5 percent pebbles; neutral.

Range in Characteristics

Depth to the base of the natric horizon: 30 to 50 inches

Thickness of the loess: 40 to 72 inches

Content of exchangeable sodium: 15 percent to more than 35 percent in the natric horizon

Depth to carbonates (if they occur): Variable

Ap or A horizon:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 or 2

Texture—silt loam

Eg horizon:

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—1 or 2

Texture—silt loam

Btng horizon and Btkng horizon (if it occurs):

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay loam or silty clay

BCg horizon (if it occurs):

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay loam or silt loam

Cg and 2Cg horizons (if they occur) and 2Ab and/or 2Btgb horizon (if it occurs):

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

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

474A—Piasa silt loam, 0 to 2 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Nearly level or depressional parts of broad interfluves

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Piasa and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a thicker dark surface layer than that of the Piasa soil
- Soils that contain less clay in the subsoil than the Piasa soil
- Soils that contain less exchangeable sodium in the subsoil than the Piasa soil

Dissimilar soils:

- The poorly drained Cowden and Virden soils, which do not have a natric horizon
- The somewhat poorly drained Herrick soils in the higher landform positions

Pierron Series

Taxonomic classification: Fine, smectitic, mesic Typic Albaqualfs

Typical Pedon

Pierron silt loam, in a nearly level area in a cultivated field, at an elevation of about 540 feet above mean sea level; about 2 miles northeast of Marine, in Madison County, Illinois; approximately 1,730 feet east and 80 feet south of the northwest corner of sec. 14, T. 4 N., R. 6 W.; USGS Grantfork, Illinois, topographic quadrangle; lat. 38 degrees 48 minutes 02 seconds N. and long. 89 degrees 44 minutes 19 seconds W., NAD 27:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; very friable; many very fine and common fine roots; few fine continuous tubular pores; many distinct light brownish gray (10YR 6/2) (dry) clay depletions on faces of peds; few fine rounded black (5YR 2.5/1) iron-manganese nodules with sharp boundaries; slightly acid; abrupt smooth boundary.

Eg1—8 to 12 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak thin platy structure; very friable; few very fine roots; common very fine and fine continuous tubular pores; common distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds; few medium distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; many fine and medium rounded reddish brown (5YR 4/4) and dark reddish brown (5YR 2.5/2) iron-manganese nodules with clear boundaries; moderately acid; clear smooth boundary.

Eg2—12 to 20 inches; light brownish gray (10YR 6/2) silt loam, light gray (10YR 7/1) dry; moderate thick platy structure parting to weak fine subangular blocky; very friable; few very fine roots; common very fine continuous tubular pores; many distinct white (10YR 8/1) (dry) clay depletions on faces of peds; few distinct very dark grayish brown (10YR 3/2) organo-clay films lining root channels; common medium prominent light olive brown (2.5Y 5/4) and few fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; common medium rounded black (5YR 2.5/1) iron-manganese nodules with clear reddish brown (5YR 4/4) boundaries; strongly acid; abrupt smooth boundary.

Btg1—20 to 29 inches; light brownish gray (2.5Y 6/2) silty clay; moderate medium prismatic structure parting to strong fine and medium angular blocky; very firm; few very fine roots; few prominent very dark grayish brown (10YR 3/2) organo-clay films lining root channels; many prominent grayish brown (2.5Y 5/2) clay films on faces of peds;

common medium prominent yellowish brown (10YR 5/4) and few fine distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; common medium rounded dark reddish brown (5YR 2.5/2) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; very strongly acid; clear smooth boundary.

Btg2—29 to 36 inches; light brownish gray (2.5Y 6/2) silty clay; strong medium prismatic structure parting to moderate medium angular blocky; very firm; common prominent very dark grayish brown (10YR 3/2) organo-clay films lining root channels; many prominent grayish brown (2.5Y 5/2) clay films on faces of peds; common coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium rounded dark reddish brown (5YR 2.5/2) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; very strongly acid; clear smooth boundary.

Btg3—36 to 44 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate coarse prismatic structure parting to moderate medium angular blocky; very firm; common prominent very dark grayish brown (10YR 3/2) organo-clay films lining root channels; many distinct grayish brown (2.5Y 5/2) clay films on faces of peds; many coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common medium rounded black (5YR 2.5/1) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; strongly acid; clear smooth boundary.

Btg4—44 to 55 inches; light olive gray (5Y 6/2) silty clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; common distinct dark gray (10YR 4/1) organo-clay films lining root channels; common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common coarse prominent strong brown (7.5YR 5/6) and common medium prominent light olive brown (2.5Y 5/6) masses of iron accumulation in the matrix; common medium rounded black (5YR 2.5/1) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; moderately acid; gradual smooth boundary.

Btg5—55 to 66 inches; light olive gray (5Y 6/2) silty clay loam; weak coarse prismatic structure; friable; common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common medium prominent brownish yellow (10YR 6/8) and yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine irregular black (5YR 2.5/1) iron-manganese nodules with clear

boundaries and common fine and medium irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation; slightly acid; clear smooth boundary.

2Cg—66 to 80 inches; grayish brown (2.5Y 5/2) silt loam; massive; friable; common fine and medium prominent brownish yellow (10YR 6/6) masses of iron accumulation in the matrix; few fine and medium irregular black (10YR 2/1) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 4/6) boundaries; about 10 percent sand; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 50 to about 80 inches

Thickness of the loess: 55 to more than 80 inches

Texture of the particle-size control section: Averages between 35 and 45 percent clay and less than 7 percent sand

Other features: Some pedons in undisturbed areas have a thin A horizon. Some pedons have a B/E horizon less than 3 inches thick directly below the E horizon.

Ap horizon:

Hue—10YR

Value—4 or 5 (6 or 7 dry); 3 (5 dry) in some pedons in undisturbed areas

Chroma—1 or 2

Texture—silt loam

Eg horizon:

Hue—10YR or 2.5Y

Value—5 or 6 (6 to 8 dry)

Chroma—1 or 2

Texture—silt loam or silt

Btg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay loam or silty clay

BCg or BCtg horizon (if it occurs):

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay loam or silt loam

Cg or 2Cg horizon:

Hue—7.5YR, 10YR, 2.5Y, 5Y, or N

Value—4 to 7

Chroma—0 to 2

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

31A—Pierron silt loam, 0 to 2 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Nearly level or slightly depressional parts of broad interfluves

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Loess; or loess and the underlying silty pedisodiment

Flooding: None

Map Unit Composition

Pierron and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Pierron soil
- Soils that have a concentration of exchangeable sodium in the subsoil
- Soils that do not have an abrupt textural change between the subsurface layer and the subsoil

Dissimilar soils:

- The somewhat poorly drained Marine soils on micro-highs
- The poorly drained Burksville soils in depressions
- Small areas of very poorly drained soils in closed depressions that remain wet for periods that extend into the growing season

703A—Pierron-Burksville silt loams, 0 to 2 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Nearly level or slightly depressional parts of broad interfluves

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Loess; or loess and the underlying silty pedisodiment

Flooding: None

Map Unit Composition

Pierron and similar soils: 50 percent

Burksville and similar soils: 40 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer
- Soils that have a natric horizon

Dissimilar soils:

- The somewhat poorly drained Marine soils on micro-highs
- Small areas of very poorly drained soils in closed depressions that remain wet for periods that extend into the growing season

864—Pits, quarries

General Definition

- This map unit consists of open pits, the entrances to room and pillar quarries, and the adjacent work and storage areas. In a typical area, the basin and sidewalls are limestone bedrock. In many places a talus slope is along the basin or at the foot of the sidewalls. The work area includes small buildings, machinery, haulage roads, and stockpiles of crushed limestone.

Map Unit Composition

Pits, quarries: 90 percent

Dissimilar components: 10 percent

Minor Components

Dissimilar components:

- A rim of soil around the top of the sidewalls
- Pools of water and scattered areas of debris

865—Pits, gravel

General Definition

- This map unit consists of open pits from which gravel and some sand have been removed for use mainly as roadfill or other construction material. The excavations are commonly 10 to 40 feet deep, and the surrounding soil material generally has been scraped or mixed with sand and gravel during the mining operations. These pits are generally on outwash plains or stream terraces.

Map Unit Composition

Pits, gravel: 90 percent

Dissimilar components: 10 percent

Minor Components

Dissimilar components:

- A rim of soil around the top of the sidewalls

- Pools of water, stockpiles of sand and gravel, and scattered areas of debris

Raddle Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Hapludolls

Typical Pedon

Raddle silt loam, in a nearly level area in a cultivated field, at an elevation of about 365 feet above mean sea level; about 4 miles northeast of Grand Tower, in Jackson County, Illinois; approximately 250 feet north and 1,320 feet west of the center of sec. 5, T. 10 S., R. 3 W.; USGS Gorham, Illinois, topographic quadrangle; lat. 37 degrees 41 minutes 01 second N. and long. 89 degrees 28 minutes 00 seconds W., NAD 27:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; moderate very fine granular structure; friable; common very fine roots; common very fine vesicular pores; neutral; abrupt smooth boundary.

A—8 to 14 inches; very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; friable; common very fine roots; common fine vesicular pores; few distinct very dark grayish brown (10YR 3/2) organic coatings lining root channels; slightly acid; abrupt smooth boundary.

BA—14 to 20 inches; very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; weak fine prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; few fine vesicular pores; few distinct very dark grayish brown (10YR 3/2) organic coatings lining root channels; slightly acid; abrupt smooth boundary.

Bw1—20 to 28 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; few fine vesicular pores; few distinct continuous very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; few distinct discontinuous very pale brown (10YR 8/2) (dry) clay depletions on faces of peds; slightly acid; clear smooth boundary.

Bw2—28 to 36 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; few very fine roots; few fine vesicular pores; few distinct continuous very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; very few distinct

patchy very pale brown (10YR 8/2) (dry) clay depletions on faces of peds; moderately acid; clear smooth boundary.

Bw3—36 to 52 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; few very fine roots; few fine vesicular pores; common distinct continuous very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; few distinct continuous very pale brown (10YR 8/2) (dry) clay depletions on faces of peds; moderately acid; clear smooth boundary.

Bw4—52 to 58 inches; yellowish brown (10YR 5/4) silt loam; weak coarse subangular blocky structure; friable; few very fine roots; few fine vesicular pores and few medium tubular earthworm channels; few distinct continuous very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; few distinct continuous very pale brown (10YR 8/2) (dry) clay depletions on faces of peds; common fine and medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

Bw5—58 to 69 inches; dark yellowish brown (10YR 4/4) silt loam; weak coarse prismatic structure; friable; few fine vesicular pores; very few faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; few distinct patchy very pale brown (10YR 8/2) (dry) clay depletions on faces of peds; neutral; abrupt smooth boundary.

BC—69 to 80 inches; strong brown (7.5YR 4/4) silt loam; weak coarse subangular blocky structure; friable; few distinct very dark grayish brown (10YR 3/2) organo-clay films lining root channels; few distinct patchy very pale brown (10YR 8/2) (dry) clay depletions on faces of peds; few thin lenses and pockets of very fine sand; neutral.

Range in Characteristics

Depth to the base of soil development: 40 to more than 80 inches; typically 50 to 74 inches

Thickness of the mollic epipedon: 10 to 24 inches; the mollic epipedon includes the BA or AB horizon in some pedons

Depth to a buried soil (if it occurs): More than 60 inches

Texture of the particle-size control section: Averages between 18 and 24 percent clay and less than 15 percent fine sand or coarser

Reaction: Moderately acid to neutral

Ap and A horizons:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 to 3

Texture—silt loam

Bw horizon:

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 or 4

Texture—typically silt loam; loam in some thin subhorizons of some pedons

BC or C horizon (if it occurs):

Hue—10YR or 7.5YR

Value—3 to 6

Chroma—2 to 4

Texture—typically silt loam; strata of loam, sandy loam, clay loam, or silty clay loam in some pedons

7430A—Raddle silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Alluvial fans and footslopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Silty local alluvium

Flooding frequency: Rare

Map Unit Composition

Raddle and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a thicker dark surface layer than that of the Raddle soil
- Soils that contain more sand in the lower part than the Raddle soil
- Soils that have slopes of more than 2 percent

Dissimilar soils:

- The somewhat poorly drained Littleton soils in the slightly lower landform positions

Ridgeville Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Ridgeville fine sandy loam, in a nearly level area in a cultivated field, at an elevation of about 427 feet above mean sea level; about 35 miles northwest of Glen

Carbon, in Madison County, Illinois; approximately 500 feet west and 60 feet south of the northeast corner of sec. 30, T. 4 N., R. 8 W.; USGS Wood River, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 46 minutes 28 seconds N. and long. 90 degrees 01 minute 28 seconds W., NAD 27:

- Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) fine sandy loam, grayish brown (10YR 5/2) dry; weak medium granular structure; friable; neutral; abrupt smooth boundary.
- Btg1—10 to 21 inches; dark grayish brown (10YR 4/2) fine sandy loam; moderate medium subangular blocky structure; friable; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine faint brown (10YR 5/3) and common medium prominent reddish brown (5YR 4/4) masses of iron accumulation in the matrix; neutral; clear smooth boundary.
- Btg2—21 to 27 inches; dark grayish brown (10YR 4/2) fine sandy loam; moderate medium subangular blocky structure; friable; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common medium distinct brown (7.5YR 4/4) and few fine distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.
- Bt—27 to 34 inches; brown (10YR 5/3) fine sandy loam; moderate coarse subangular blocky structure; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine faint grayish brown (2.5Y 5/2) iron depletions and common medium faint brown (7.5YR 4/4) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.
- BCt—34 to 44 inches; brown (7.5YR 4/4) loamy fine sand; weak coarse subangular blocky structure; friable; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; common medium distinct pale brown (10YR 6/3) and common fine prominent grayish brown (2.5Y 5/2) iron depletions in the matrix; neutral; gradual smooth boundary.
- BC—44 to 53 inches; brown (7.5YR 4/4) fine sand; weak coarse subangular blocky structure; very friable; common coarse distinct pale brown (10YR 6/3) and few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; neutral; gradual smooth boundary.
- C—53 to 60 inches; brown (7.5YR 5/4) fine sand; single grain; loose; common medium distinct pale brown (10YR 6/3) iron depletions in the matrix; neutral.

Range in Characteristics

Depth to the base of soil development: 35 to 55 inches

Texture of the particle-size control section: Typically about 16 to 18 percent clay and between 45 and 70 percent total sand; as little as 12 percent clay in some pedons

Ap horizon and A horizon (if it occurs):

Hue—10YR
Value—2 or 3 (3 to 5 dry)
Chroma—1 or 2
Texture—fine sandy loam

BA horizon (if it occurs):

Hue—10YR
Value—3 or 4
Chroma—2 or 3
Texture—fine sandy loam, sandy loam, or loam

Btg or Bt horizon:

Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—fine sandy loam, sandy loam, or loam; sandy clay loam in thin subhorizons

BCt or BC horizon (if it occurs):

Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 8
Texture—loamy fine sand, loamy sand, or fine sand

C horizon:

Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 8
Texture—commonly fine sand or sand; strata of loam, sandy loam, loamy fine sand, or coarse sand in some pedons

7151A—Ridgeville fine sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Terraces

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Loamy and sandy alluvium or outwash

Flooding frequency: Rare

Map Unit Composition

Ridgeville and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that have a lighter colored surface layer than that of the Ridgeville soil
- Soils that contain more sand throughout than the Ridgeville soil
- Soils that contain more silt and clay in the lower part than the Ridgeville soil

Dissimilar soils:

- The well drained Oakville and Onarga soils in the higher landform positions
- The poorly drained Ambraw soils on the lower lying flood plains

Ridgway Series

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

Typical Pedon

Ridgway silt loam, in a gently sloping area in a cultivated field, at an elevation of about 415 feet above mean sea level; about 3 miles southwest of Bartelso, in Clinton County, Illinois; approximately 1,267 feet east and 1,874 feet north of the southwest corner of sec. 36, T. 1 N., R. 4 W.; USGS Addieville, Illinois, topographic quadrangle; lat. 38 degrees 29 minutes 02 seconds N. and long. 89 degrees 29 minutes 33 seconds W., NAD 27:

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; many very fine and few fine roots; fragments of dark yellowish brown (10YR 4/4) subsoil material mixed in the lower part; neutral; abrupt smooth boundary.

Bt1—8 to 16 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate very fine subangular blocky structure; firm; common very fine roots; few fine continuous tubular pores; many faint brown (10YR 4/3) clay films on faces of peds; neutral; clear smooth boundary.

Bt2—16 to 27 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; common very fine roots; common fine continuous tubular pores; many distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; gradual smooth boundary.

2Bt3—27 to 32 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; firm; common very fine roots; few fine continuous tubular pores; common distinct brown (10YR 4/3)

clay films on faces of peds; strongly acid; clear smooth boundary.

2Bt4—32 to 52 inches; brown (7.5YR 4/4) fine sandy loam; weak medium and coarse subangular blocky structure; friable; common very fine roots; few fine and medium vesicular and tubular pores; few distinct brown (10YR 4/3) clay films on faces of peds; strongly acid; gradual smooth boundary.

2E&Bt—52 to 74 inches; yellowish brown (10YR 5/6) fine sand (E); single grain; loose; lamellae of brown (7.5YR 4/4) loamy fine sand (Bt); massive; very friable; many faint brown (7.5YR 4/3) clay films occurring as bridges between sand grains; individual lamellae are 1 to 2 inches thick; combined thickness of the lamellae is about 10 inches; few very fine roots; moderately acid; clear smooth boundary.

2C—74 to 80 inches; yellowish brown (10YR 5/4) fine sand; single grain; loose; few very fine roots; slightly acid.

Range in Characteristics

Depth to the base of soil development: 50 to more than 80 inches

Thickness of the loess or other silty material: 24 to 40 inches

Content of rock fragments: Less than 10 percent, by volume, in the 2Bt and 2E&Bt horizons

Other features: Some pedons have an E horizon.

Ap or A horizon:

Hue—10YR

Value—4 or 5 (6 or 7 dry); 3 (5 dry) in A horizons that are less than 6 inches thick

Chroma—2 or 3

Texture—silt loam

Bt horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—silty clay loam or silt loam

2Bt horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—clay loam, loam, or sandy loam; stratified in some pedons; some strata have coarser or finer textures

2E&Bt horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—loamy sand, sand, fine sand, loamy fine

sand, very fine sand, or loamy very fine sand (E); loamy sand, sandy loam, loamy fine sand, loamy very fine sand, fine sandy loam, or very fine sandy loam (Bt)

7434B—Ridgway silt loam, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Terraces

Position on the landform: Treads and risers

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Loess or other silty material and loamy outwash

Flooding frequency: Rare

Map Unit Composition

Ridgway and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain more sand in the upper part than the Ridgway soil
- Soils that contain less sand in the lower part than the Ridgway soil
- Soils that have slopes of more than 5 percent or less than 2 percent

Dissimilar soils:

- The somewhat poorly drained Geff soils in the lower, less sloping landform positions
- The well drained Oakville soils, which formed in sandy sediments reworked by the wind; on terraces

Rocher Series

Taxonomic classification: Coarse-loamy, mixed, superactive, calcareous, mesic Typic Udifluvents

Typical Pedon

Rocher loam, on a slope of 2 percent, near the crest of a broad, low natural levee in a cultivated field, at an elevation of about 382 feet above mean sea level; about 7 miles southeast of Prairie du Rocher, in Randolph County, Illinois; approximately 1,980 feet southwest with a line perpendicular to the levee and 1,320 feet northeast of the Mississippi River; also approximately 5,400 feet southeast along the levee from the intersection of the levee and the Discharge

(drainage ditch) and 800 feet southwest perpendicular to the levee; Illinois State Plane coordinates 484,480 feet north and 540,490 feet east, Illinois West Zone; T. 6 S., R. 8 W.; USGS Ste. Genevieve, Missouri-Illinois, topographic quadrangle; lat. 37 degrees 59 minutes 47 seconds N. and long. 90 degrees 01 minute 32 seconds W., NAD 27:

Ap—0 to 5 inches; brown (10YR 4/3) loam, pale brown (10YR 6/3) dry; weak medium and coarse granular structure; very friable; common fine roots; slightly effervescent; slightly alkaline; clear smooth boundary.

C1—5 to 11 inches; brown (10YR 5/3) very fine sandy loam; massive; very friable; common fine roots; slightly effervescent; slightly alkaline; clear smooth boundary.

C2—11 to 32 inches; light yellowish brown (10YR 6/4) loamy very fine sand; single grain; loose; few fine roots; slightly effervescent; slightly alkaline; gradual smooth boundary.

C3—32 to 53 inches; yellowish brown (10YR 5/4) loamy very fine sand; single grain; loose; slightly effervescent; slightly alkaline; gradual smooth boundary.

C4—53 to 62 inches; light yellowish brown (10YR 6/4) loamy fine sand; single grain; loose; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the solum: 6 to 20 inches

Thickness of the A and AC horizons: 6 to 20 inches

Depth to carbonates: 10 inches or less; some pedons do not have carbonates in some strata at depths between 20 and 60 inches

Ap or A horizon:

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 or 3

Texture—loam

AC horizon (if it occurs):

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 or 3

Texture—loam or silt loam

C horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—very fine sand, very fine sandy loam, or loamy very fine sand; strata of loamy fine sand, fine sand, fine sandy loam, silt loam, or loam

3038B—Rocher loam, 2 to 5 percent slopes, frequently flooded

Setting

Landform: Gently undulating flood plains

Position on the landform: Natural levees and flood-plain splays

Soil Properties and Qualities

Drainage class: Somewhat excessively drained

Dominant parent material: Stratified calcareous loamy or sandy alluvium that is dominated by very fine sand

Flooding frequency: Frequent

Map Unit Composition

Rocher and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Rocher soil
- Soils that are not calcareous in the substratum
- Areas of soils that have short, steep slopes

Dissimilar soils:

- The poorly drained Beaucoup soils in swales and slight depressions

8038B—Rocher loam, 2 to 5 percent slopes, occasionally flooded

Setting

Landform: Gently undulating flood plains

Position on the landform: Natural levees and flood-plain splays

Soil Properties and Qualities

Drainage class: Somewhat excessively drained

Dominant parent material: Stratified calcareous loamy or sandy alluvium that is dominated by very fine sand

Flooding frequency: Occasional

Map Unit Composition

Rocher and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Rocher soil

- Soils that are not calcareous in the substratum
- Areas of soils that have short, steep slopes

Dissimilar soils:

- The poorly drained Ambraw soils in swales and slight depressions

Ruma Series

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

Typical Pedon

Ruma silty clay loam, in an area of Ruma-Ursa silty clay loams, 18 to 35 percent slopes, severely eroded; on a south-facing shoulder slope in a hayfield, at an elevation of about 485 feet above mean sea level; about 2 miles east of Floraville, in St. Clair County, Illinois; approximately 1,515 feet south and 1,030 feet west of the northeast corner of sec. 7, T. 2 S., R. 8 W.; USGS Millstadt, Illinois, topographic quadrangle; lat. 38 degrees 22 minutes 06 seconds N. and long. 90 degrees 01 minute 18 seconds W., NAD 27:

Ap—0 to 5 inches; mixed dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/4) silty clay loam, light yellowish brown (10YR 6/4) dry; moderate fine subangular blocky structure; friable; many very fine and common fine and medium roots; few very fine and fine constricted tubular pores; about 29 percent clay; slightly acid; abrupt smooth boundary.

Bt1—5 to 13 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; common very fine and few fine and medium roots; many distinct dark brown (10YR 3/3) organo-clay films on faces of peds; about 33 percent clay; strongly acid; clear smooth boundary.

Bt2—13 to 28 inches; dark yellowish brown (10YR 4/6) silty clay loam; moderate fine prismatic structure parting to moderate medium angular blocky; firm; common very fine and few fine roots; many distinct dark yellowish brown (10YR 3/4) organo-clay films on faces of peds; about 32 percent clay; strongly acid; gradual smooth boundary.

Bt3—28 to 40 inches; dark yellowish brown (10YR 4/6) silty clay loam; moderate medium prismatic structure parting to moderate medium and coarse angular blocky; firm; few very fine roots; few very fine constricted tubular pores; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few prominent black (10YR 2/1) iron-manganese coatings on vertical faces of peds

and lining root channels; about 28 percent clay; moderately acid; gradual smooth boundary.

Bt4—40 to 48 inches; yellowish brown (10YR 5/6) silt loam; weak medium prismatic structure; friable; few very fine roots; few very fine and fine constricted tubular pores; few distinct dark yellowish brown (10YR 4/4) clay films on vertical faces of peds; few fine rounded very dark brown (7.5YR 2.5/2) masses of iron-manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; about 23 percent clay; slightly acid; clear smooth boundary.

2BCt1—48 to 62 inches; brown (7.5YR 4/4) silt loam; massive; friable; few very fine roots; common very fine and fine tubular pores; very few distinct dark yellowish brown (10YR 4/4) clay films lining root channels; few fine rounded very dark brown (7.5YR 2.5/2) masses of iron-manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; about 25 percent clay and 8 percent sand; slightly acid; gradual smooth boundary.

2BCt2—62 to 80 inches; brown (7.5YR 4/4) silt loam; massive; friable; few very fine roots; few fine and medium tubular pores; very few distinct dark yellowish brown (10YR 4/4) clay films lining root channels; few fine distinct pinkish gray (7.5YR 6/2) iron depletions along root channels; few fine rounded black (7.5YR 2.5/1) masses of iron-manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; about 24 percent clay and 12 percent sand; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to 70 inches

Thickness of the loess: 40 to about 80 inches

Texture of the particle-size control section: Averages between 27 and 35 percent clay and less than 7 percent sand

Ap horizon:

Hue—10YR

Value—4 or 5 (6 or 7 dry); 3 (5 or 6 dry) in pedons in undisturbed areas

Chroma—2 to 4; 1 or 2 in pedons in undisturbed areas

Texture—silt loam or silty clay loam

E, EB, or BE horizon (if it occurs):

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 to 4

Texture—silt loam

Bt horizon and BC horizon (if it occurs):

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6

Texture—silty clay loam or silt loam

2Bt, 2BC, 2CB, or 2C horizon (if it occurs):

Hue—7.5YR, 10YR, or 2.5Y

Value—5 or 6

Chroma—2 to 6

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

491B—Ruma silt loam, 2 to 5 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Convex summits

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Loess; or loess and the underlying silty pediment

Flooding: None

Map Unit Composition

Ruma and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Ruma soil
- Soils that contain more clay in the surface layer than the Ruma soil
- Areas of soils that are eroded

Dissimilar soils:

- The moderately well drained Homen soils in the less sloping or less convex landform positions
- The somewhat poorly drained Marine soils in depressions at the head of drainageways

491C2—Ruma silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Convex summits, shoulders, and backslopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Loess; or loess and the underlying silty pediment

Flooding: None

Map Unit Composition

Ruma and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components*Similar soils:*

- Soils that have a darker surface layer than that of the Ruma soil
- Soils that contain more clay in the surface layer than the Ruma soil
- Areas of soils that are severely eroded

Dissimilar soils:

- The moderately well drained Homen soils in the less sloping or less convex landform positions
- The somewhat poorly drained Marine soils in depressions at the head of drainageways

491D2—Ruma silt loam, 10 to 18 percent slopes, eroded**Setting**

Landform: Loess-covered till plains

Position on the landform: Convex summits, shoulders, and backslopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Loess; or loess and the underlying silty pedisegment

Flooding: None

Map Unit Composition

Ruma and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components*Similar soils:*

- Soils that have a darker surface layer than that of the Ruma soil
- Soils that contain more clay in the surface layer than the Ruma soil
- Areas of soils that are severely eroded

Dissimilar soils:

- The moderately well drained Homen soils in the less sloping or less convex landform positions
- The somewhat poorly drained Marine soils in depressions at the head of drainageways

491D3—Ruma silty clay loam, 10 to 18 percent slopes, severely eroded**Setting**

Landform: Loess-covered till plains

Position on the landform: Erosional side slopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Loess; or loess and the underlying silty pedisegment

Flooding: None

Map Unit Composition

Ruma and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components*Similar soils:*

- Soils that contain less clay in the surface layer than the Ruma soil
- Areas of soils that are less eroded than the Ruma soil
- Soils that have slopes of more than 18 percent or less than 10 percent

Dissimilar soils:

- The moderately well drained Homen soils in the less sloping or less convex landform positions
- The somewhat poorly drained Marine soils in depressions at the head of drainageways

702F—Ruma-Hickory silt loams, 18 to 35 percent slopes**Setting**

Landform: Loess-covered till plains

Position on the landform: Side slopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Ruma—loess, or loess and the underlying silty pedisegment; Hickory—glacial till

Flooding: None

Map Unit Composition

Ruma and similar soils: 50 percent

Hickory and similar soils: 40 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil
- Soils that contain more clay in the subsoil
- Areas of soils that are eroded

Dissimilar soils:

- The somewhat poorly drained Wakeland soils on narrow flood plains

Shaffton Series

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Fluvaquentic Hapludolls

Typical Pedon

Shaffton clay loam, on a gently undulating flood plain in a cultivated field, at an elevation of about 405 feet above mean sea level; about 2.5 miles west of Columbia, in Monroe County, Illinois; approximately 280 feet east and 350 feet north of the southwest corner of sec. 18, T. 1 S., R. 10 W.; USGS Oakville, Missouri-Illinois, topographic quadrangle; lat. 38 degrees 26 minutes 37 seconds N. and long. 90 degrees 15 minutes 20 seconds W., NAD 27:

Ap—0 to 10 inches; very dark gray (10YR 3/1) clay loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; few very fine roots; neutral; abrupt smooth boundary.

Bw1—10 to 16 inches; brown (10YR 4/3) clay loam; moderate medium prismatic structure parting to moderate fine subangular blocky; friable; few very fine roots; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine faint grayish brown (10YR 5/2) iron depletions and few fine prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

Bw2—16 to 21 inches; brown (10YR 4/3) clay loam; weak medium 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; few fine faint grayish brown (10YR 5/2) iron depletions and few fine prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Bw3—21 to 27 inches; brown (10YR 4/3) fine sandy loam; weak medium prismatic structure parting to weak medium angular blocky; very friable; few very fine roots; few faint very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine distinct gray (10YR 5/1) iron depletions and few

fine prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Bw4—27 to 33 inches; brown (10YR 4/3) fine sandy loam; weak medium prismatic structure parting to weak medium angular blocky; very friable; few very fine roots; few faint very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine distinct gray (10YR 5/1) iron depletions and few fine prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

BC—33 to 43 inches; brown (10YR 4/3) fine sandy loam; weak medium prismatic structure parting to weak medium angular blocky; very friable; few very fine roots; many medium distinct gray (10YR 5/1) iron depletions and common fine prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

CB—43 to 53 inches; brown (10YR 5/3) silt loam; weak medium prismatic structure; very friable; few very fine roots; common medium distinct gray (10YR 5/1) iron depletions and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

Cg—53 to 60 inches; 70 percent gray (10YR 5/1) and 30 percent strong brown (7.5YR 5/6), stratified fine sandy loam and silt loam; massive; very friable; few very fine roots; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly acid.

Range in Characteristics

Depth to the base of soil development: 30 to 50 inches

Thickness of the mollic epipedon: 10 to 15 inches

Depth to carbonates (if they occur): More than 60 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 to 3

Texture—silty clay loam or clay loam

Bw horizon:

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—2 or 3

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

BC or C horizon:

Hue—10YR or 2.5Y

Value—4 or 5
 Chroma—1 to 3
 Texture—silt loam to fine sand; commonly stratified

2183A—Shaffton-Fluents-Urban land complex, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Gently undulating flood plains

Component Properties and Qualities

Shaffton

Drainage class: Somewhat poorly drained
Dominant parent material: Loamy alluvium
Flooding frequency: Occasional

Fluents

- Fluents consist of soil materials that have been altered by flooding and by extensive leveling, cutting, and filling. Individual soil horizons are generally no longer distinguishable.

Urban land

- Urban land consists of areas covered by surfaces or structures that so obscure or alter the soils that identification of the soil series is not possible. Urban land consists mostly of shopping centers, industrial plants, other commercial sites, and streets and parking lots.

Map Unit Composition

Shaffton and similar soils: 40 percent
 Fluents: 30 percent
 Urban land: 20 percent
 Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that contain more sand in the subsoil than the Shaffton soil
- Soils that contain more clay throughout than the Shaffton soil
- Soils that have slopes of more than 2 percent

Dissimilar components:

- The well drained Landes soils on the higher natural levees
- The poorly drained Ambraw and Fults soils in depressions

8183A—Shaffton clay loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Gently undulating flood plains

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Dominant parent material: Loamy alluvium
Flooding frequency: Occasional

Map Unit Composition

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

Minor Components

Similar soils:

- Soils that contain more sand in the subsoil than the Shaffton soil
- Soils that contain more clay throughout than the Shaffton soil
- Soils that have slopes of more than 2 percent

Dissimilar soils:

- The well drained Landes soils on the higher natural levees
- The poorly drained Ambraw and Fults soils in depressions

Sylvan Series

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

Typical Pedon

Sylvan silt loam, in an area of Sylvan-Bold silt loams, 10 to 18 percent slopes, eroded; in a pasture, at an elevation of about 525 feet above mean sea level; about 3 miles west of Edwardsville, in Madison County, Illinois; approximately 1,600 feet north and 2,200 feet west of the southeast corner of sec. 17, T. 4 N., R. 8 W.; USGS Wood River, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 47 minutes 38 seconds N. and long. 90 degrees 00 minutes 38 seconds W., NAD 27:

Ap—0 to 5 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many very fine and common fine roots; neutral; abrupt smooth boundary.

Bt1—5 to 13 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; common very fine and few

fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—13 to 22 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; firm; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt3—22 to 30 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine subangular blocky structure; friable; few very fine roots; few faint brown (10YR 4/3) clay films on faces of peds; neutral; clear smooth boundary.

BCt—30 to 37 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; few very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds; slightly effervescent; slightly alkaline; clear smooth boundary.

C1—37 to 58 inches; yellowish brown (10YR 5/4) silt loam; massive; very friable; few very fine roots; strongly effervescent; moderately alkaline; gradual smooth boundary.

C2—58 to 80 inches; yellowish brown (10YR 5/4) silt loam; massive; very friable; common fine faint pale brown (10YR 6/3) iron depletions in the matrix; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: Typically 22 to 35 inches; ranges to 40 inches in some pedons

Texture of the particle-size control section: Averages between 25 and 35 percent clay and less than 15 percent sand

Depth to carbonates: 22 to 40 inches; carbonates are in the BC horizon in some pedons

Other features: Pedons in uncultivated areas have an A horizon. This horizon is 2 to 6 inches thick. Some pedons have an EB or a BE horizon.

Ap or A horizon (if it occurs):

Hue—10YR

Value—4 to 6 (6 or 7 dry); 3 to 5 (5 or 6 dry) in pedons in uncultivated areas

Chroma—2 to 4; 2 or 3 in pedons in uncultivated areas

Texture—silt loam

E horizon (if it occurs):

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 to 4

Texture—silt loam

Bt horizon:

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—silty clay loam; subhorizons of silt loam in some pedons

BC horizon (if it occurs):

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—silt loam or silty clay loam

C horizon:

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: Loess bluffs

Position on the landform: Hillslopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Calcareous loess

Flooding: None

Map Unit Composition

Sylvan and similar soils: 50 percent

Bold and similar soils: 40 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that are deeper to carbonates
- Soils that have slopes of more than 18 percent or less than 10 percent
- Areas of soils that are severely eroded

Dissimilar soils:

- The well drained Drury and Worthen soils on footslopes
- The somewhat poorly drained Wakeland soils on narrow flood plains

962F2—Sylvan-Bold silt loams, 18 to 35 percent slopes, eroded

Setting

Landform: Loess bluffs

Position on the landform: Hillslopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Calcareous loess

Flooding: None

Map Unit Composition

Sylvan and similar soils: 50 percent

Bold and similar soils: 40 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that are deeper to carbonates
- Soils that have slopes of more than 35 percent or less than 18 percent
- Areas of soils that are severely eroded

Dissimilar soils:

- The well drained Drury and Worthen soils on footslopes
- The somewhat poorly drained Wakeland soils on narrow flood plains

Tamalco Series

Taxonomic classification: Fine, smectitic, mesic Typic Natrudalfs

Typical Pedon

Tamalco silt loam, in a gently sloping area in a cultivated field, at an elevation of about 580 feet above mean sea level; about 3 miles southeast of Alhambra, in Madison County, Illinois; approximately 1,140 feet east and 330 feet south of the center of sec. 17, T. 5 N., R. 5 W.; USGS New Douglas, Illinois, topographic quadrangle; lat. 38 degrees 52 minutes 47 seconds N. and long. 89 degrees 40 minutes 47 seconds W., NAD 27:

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; common fine and medium rounded masses of iron-manganese accumulation; mixed with fragments of brown (7.5YR 4/4) silty clay subsoil material; neutral; abrupt smooth boundary.

Bt1—9 to 13 inches; brown (7.5YR 4/4) silty clay; strong fine subangular blocky structure; very firm; many prominent reddish brown (5YR 4/4) clay films on faces of peds; strongly acid; abrupt smooth boundary.

Bt2—13 to 19 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; very firm;

many prominent brown (7.5YR 4/4) clay films on faces of peds; few black (5YR 2.5/1) iron-manganese coatings on vertical faces of peds and lining root channels; common medium faint brown (7.5YR 4/4) and common medium distinct reddish brown (5YR 4/4) masses of iron accumulation in the matrix; few fine rounded masses of iron-manganese accumulation; neutral; clear smooth boundary.

Btn—19 to 28 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure; firm; many distinct dark brown (7.5YR 3/2) organo-clay films lining root channels; common distinct brown (10YR 4/3) clay films on faces of peds; common coarse distinct light brownish gray (10YR 6/2) iron depletions and common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; common fine and medium rounded masses of iron-manganese accumulation; few coarse irregular masses of carbonate accumulation; moderately alkaline; clear smooth boundary.

BCn—28 to 39 inches; light brownish gray (10YR 6/2) silt loam; moderate coarse prismatic structure; friable; common distinct brown (7.5YR 5/2) clay depletions on faces of peds; common distinct black (N 2.5/0) iron-manganese stains on vertical faces of peds; many medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; common fine and medium rounded masses of iron-manganese accumulation; few coarse irregular carbonate concretions; moderately alkaline; gradual smooth boundary.

CB—39 to 53 inches; yellowish brown (10YR 5/4) silt loam; weak very coarse prismatic structure; friable; many distinct brown (10YR 5/3) clay depletions on faces of peds; common medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; moderately alkaline; clear smooth boundary.

C—53 to 60 inches; brown (7.5YR 5/4) silt loam; massive; friable; common distinct brown (10YR 5/3) clay depletions on faces of peds; common medium distinct brown (7.5YR 5/2) iron depletions and common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; common medium rounded masses of iron-manganese accumulation; moderately alkaline.

Range in Characteristics

Depth to the base of soil development: 36 to 60 inches

Content of clay in the particle-size control section:

Averages between 35 and 42 percent; as much as 45 percent in individual subhorizons

Content of exchangeable sodium: 15 percent or more in one or more subhorizons of the subsoil within 30 inches of the soil surface

Ap horizon:

Hue—10YR
Value—3 to 5 (5 to 7 dry)
Chroma—2 or 3
Texture—silt loam

E horizon (if it occurs):

Hue—10YR
Value—4 to 6 (6 to 8 dry)
Chroma—2 or 3
Texture—silt loam

Bt horizon:

Hue—5YR, 7.5YR, or 10YR
Value—4 or 5
Chroma—3 to 8
Texture—silty clay or silty clay loam

Btn horizon:

Hue—7.5YR, 10YR, or 2.5Y
Value—5 or 6
Chroma—1 to 4
Texture—silty clay loam

BCn horizon (if it occurs):

Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam or silty clay loam

C or 2C horizon:

Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silt loam, loam, silty clay loam, or clay loam

581B2—Tamalco silt loam, 2 to 5 percent slopes, eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Convex summits

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Loess; or loess and the underlying silty pedisegment

Flooding: None

Map Unit Composition

Tamalco and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain more clay in the surface layer than the Tamalco soil
- Soils that contain less clay in the subsoil than the Tamalco soil
- Soils that are deeper to a high content of exchangeable sodium than the Tamalco soil

Dissimilar soils:

- The somewhat poorly drained Marine and Oconee soils, which do not have a natric horizon
- The poorly drained Burksville and Cowden soils in depressions

Tice Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls

Typical Pedon

Tice silty clay loam, in a nearly level area in a cultivated field, at an elevation of about 398 feet above mean sea level; about 0.5 mile northwest of Chalfin Bridge, in Monroe County, Illinois; approximately 550 feet southwest of railroad tracks and 150 feet southeast of Outlet Road in parcel S. 707, T. 4 S., R. 11 W.; USGS Selma, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 12 minutes 53 seconds N. and long. 90 degrees 16 minutes 37 seconds W., NAD 27:

Ap—0 to 9 inches; very dark brown (10YR 2/2) silty clay loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; friable; many very fine roots; about 28 percent clay; neutral; abrupt smooth boundary.

A—9 to 16 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; friable; many very fine roots; common continuous distinct very dark brown (10YR 2/2) organic coatings on faces of peds; about 29 percent clay; neutral; clear smooth boundary.

Bw1—16 to 24 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; many continuous distinct very dark grayish brown (10YR 3/2)

organo-clay films on faces of peds; few fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; about 30 percent clay; neutral; clear smooth boundary.

Bw2—24 to 35 inches; brown (10YR 4/3) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; firm; common very fine roots; many continuous distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; about 32 percent clay; neutral; clear smooth boundary.

Bg1—35 to 47 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; many continuous distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; few fine rounded dark brown (7.5YR 3/3) masses of iron-manganese accumulation; about 34 percent clay; neutral; gradual smooth boundary.

Bg2—47 to 61 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; many continuous prominent very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine and medium distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; few fine rounded dark brown (7.5YR 3/3) masses of iron-manganese accumulation; about 35 percent clay; neutral; gradual smooth boundary.

Bg3—61 to 72 inches; grayish brown (10YR 5/2) silty clay loam; weak fine prismatic structure; firm; few very fine roots; common continuous distinct very dark grayish brown (10YR 3/2) organo-clay films on vertical faces of peds; many fine and medium distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; few fine and medium irregular very dark brown (7.5YR 2.5/2) and strong brown (7.5YR 4/6) masses of iron-manganese accumulation; about 33 percent clay; slightly acid; clear smooth boundary.

BCg—72 to 80 inches; grayish brown (10YR 5/2) silty clay loam; weak medium prismatic structure; firm; few very fine roots; few discontinuous faint dark grayish brown (10YR 4/2) clay films on vertical faces of peds and in pores and root channels; common fine and medium faint brown (10YR 4/3) and few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine and medium irregular black (7.5YR 2.5/1) masses

of iron-manganese accumulation; about 35 percent clay; slightly acid.

Range in Characteristics

Depth to the base of soil development: 30 to more than 80 inches

Thickness of the mollic epipedon: 10 to 24 inches

Texture of the particle-size control section: Averages between 22 and 35 percent clay and less than 15 percent sand

Other features: Some pedons have an AB or a BA horizon.

Ap and A horizons:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 or 2

Texture—silty clay loam

Bw and Bg horizons:

Hue—10YR or 2.5Y; 5Y in some gleyed pedons below a depth of 50 inches

Value—4 or 5

Chroma—2 to 4; 1 in some gleyed pedons below a depth of 50 inches

Texture—silty clay loam or silt loam

BC or BCg horizon (if it occurs):

Hue—10YR, 2.5Y, or 5Y

Value—4 or 5

Chroma—1 to 4

Texture—typically silty clay loam or silt loam; strata of loam, clay loam, or sandy loam in some pedons

C or Cg horizon (if it occurs):

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 3

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

2284A—Tice-Fluents-Urban land complex, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Component Properties and Qualities

Tice

Drainage class: Somewhat poorly drained

Dominant parent material: Alluvium of silty clay loam

Flooding frequency: Occasional

Fluvents

• Fluvents consist of soil materials that have been altered by flooding and by extensive leveling, cutting, and filling. Individual soil horizons are generally no longer distinguishable.

Urban land

• Urban land consists of areas covered by surfaces or structures that so obscure or alter the soils that identification of the soil series is not possible. Urban land consists mostly of shopping centers, industrial plants, other commercial sites, and streets and parking lots.

Map Unit Composition

Tice and similar soils: 40 percent

Fluvents: 30 percent

Urban land: 20 percent

Dissimilar components: 10 percent

Minor Components*Similar soils:*

- Soils that contain more clay in the surface layer than the Tice soil
- Soils that contain more sand in the subsoil and the substratum than the Tice soil
- Soils that contain less clay throughout than the Tice soil

Dissimilar components:

- The poorly drained Ambraw and Beaucoup soils in the lower landform positions
- The well drained Landes soils on the higher natural levees

8284A—Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded**Setting**

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Alluvium of silty clay loam

Flooding frequency: Occasional

Map Unit Composition

Tice and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components*Similar soils:*

- Soils that contain more clay in the surface layer than the Tice soil

- Soils that contain more sand in the subsoil and the substratum than the Tice soil
- Soils that contain less clay throughout than the Tice soil

Dissimilar soils:

- The poorly drained Darwin and Beaucoup soils in the lower landform positions
- The well drained Landes soils on the higher natural levees

533—Urban land**General Definition**

• Urban land consists of areas covered by surfaces or structures that so obscure or alter the soils that identification of the soil series is not possible. Urban land consists mostly of shopping centers, industrial plants, other commercial sites, and streets and parking lots.

Map Unit Composition

Urban land: 90 percent

Dissimilar components: 10 percent

Minor Components*Dissimilar components:*

- Areas of dumps
- Cut and filled areas of the loamy Orthents

Virден Series

Taxonomic classification: Fine, smectitic, mesic Vertic Argiaquolls

Typical Pedon

Virден silt loam, in a slightly depressional area in a cultivated field, at an elevation of about 421 feet above mean sea level; about 2 miles east of Mascoutah, in St. Clair County, Illinois; approximately 1,410 feet south and 2,000 feet east of the northwest corner of sec. 34, T. 1 N., R. 6 W.; USGS Mascoutah, Illinois, topographic quadrangle; lat. 38 degrees 29 minutes 28 seconds N. and long. 89 degrees 45 minutes 14 seconds W., NAD 27:

Ap—0 to 10 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; many very fine roots; about 25 percent clay; neutral; clear smooth boundary.

A—10 to 15 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure parting to moderate medium granular; firm; common very fine roots; few fine

rounded very dark brown (7.5YR 2.5/2) masses of iron-manganese accumulation; about 26 percent clay; neutral; clear smooth boundary.

Btg1—15 to 22 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; firm; common very fine roots; many distinct black (10YR 2/1) organo-clay films on faces of peds; few fine distinct brown (10YR 4/3) masses of iron accumulation in the matrix; few fine rounded black (N 2.5/0) iron-manganese nodules with sharp boundaries; about 38 percent clay; neutral; clear smooth boundary.

Btg2—22 to 38 inches; grayish brown (2.5Y 5/2) silty clay loam; strong medium prismatic structure parting to moderate medium angular blocky; firm; common very fine roots; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine rounded strong brown (7.5YR 4/6) masses of iron-manganese accumulation and few medium rounded black (N 2.5/0) iron-manganese nodules with sharp boundaries; about 37 percent clay; slightly acid; clear smooth boundary.

Btg3—38 to 52 inches; gray (2.5Y 5/1) silty clay loam; moderate medium prismatic structure parting to weak medium angular blocky; firm; few very fine roots; many distinct dark gray (10YR 4/1) clay films on faces of peds; common fine and medium prominent yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; few fine irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation and few medium rounded black (N 2.5/0) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; about 36 percent clay; slightly acid; clear smooth boundary.

Btg4—52 to 66 inches; gray (2.5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak coarse angular blocky; firm; few very fine roots; common distinct dark gray (10YR 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 medium and coarse rounded black (N 2.5/0) iron-manganese nodules with clear strong brown (7.5YR 4/6) boundaries; about 33 percent clay; neutral; gradual smooth boundary.

BCtg—66 to 74 inches; gray (2.5Y 6/1) silty clay loam; weak coarse subangular blocky structure; friable; few very fine roots; few distinct dark gray (10YR 4/1) clay films lining root channels; common fine and medium prominent strong brown (7.5YR 5/6)

masses of iron accumulation in the matrix; few fine irregular strong brown (7.5YR 4/6) masses of iron-manganese accumulation; about 28 percent clay; neutral; gradual smooth boundary.

Cg—74 to 80 inches; gray (2.5Y 6/1) silt loam; massive; friable; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine and medium irregular strong brown (7.5YR 4/6) masses of iron-manganese accumulation; about 26 percent clay; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to more than 60 inches

Thickness of the loess: 60 to more than 80 inches

Thickness of the mollic epipedon: 10 to 20 inches; the mollic epipedon commonly extends into the upper part of the B horizon

Depth to carbonates (if they occur): More than 50 inches

Ap, A, or AB horizon:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 or 2

Texture—silt loam or silty clay loam

Btg and BCtg horizons:

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 6

Chroma—0 to 2

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

Cg horizon:

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay loam or silt loam

50A—Virden silt loam, 0 to 2 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Nearly level or slightly depressional parts of broad interfluves

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Virden and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have an incipient E horizon
- Soils that contain less clay in the subsoil than the Virден soil
- Soils that contain a concentration of exchangeable sodium

Dissimilar soils:

- Small areas of depressional soils that remain wet for periods that extend into the growing season

885A—Virден-Fosterburg silt loams, 0 to 2 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Nearly level or slightly depressional parts of broad interfluvies

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Virден and similar soils: 50 percent

Fosterburg and similar soils: 40 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have an incipient E horizon
- Soils that contain more clay in the surface layer
- Soils that contain less clay in the subsoil

Dissimilar soils:

- Small areas of depressional soils that remain wet for periods that extend into the growing season

Wakeland Series

Taxonomic classification: Coarse-silty, mixed, superactive, nonacid, mesic Aeric Fluvaquents

Typical Pedon

Wakeland silt loam, in a nearly level area in a cultivated field, at an elevation of about 485 feet above mean sea level; about 2 miles northeast of Highland, in Madison County, Illinois; approximately 1,600 feet north and 1,330 feet east of the center of sec. 34, T. 4 N., R. 5 W.; USGS Grantfork, Illinois, topographic quadrangle; lat. 38 degrees 45 minutes 18 seconds N.

and long. 89 degrees 38 minutes 27 seconds W., NAD 27:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; very thin lenses of light gray (10YR 7/1) silt and very fine sand; weak fine granular structure; friable; many very fine and few fine roots; few fine continuous tubular pores; neutral; clear smooth boundary.

Cg1—8 to 34 inches; dark grayish brown (10YR 4/2) silt loam; thin lenses of light brownish gray (10YR 6/2) silt and very fine sand; massive; friable; few very fine roots; common very fine and fine continuous tubular pores; few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; neutral; gradual smooth boundary.

Cg2—34 to 44 inches; dark grayish brown (10YR 4/2) silt loam; massive; friable; few very fine roots; few very fine continuous tubular pores; common medium faint light brownish gray (10YR 6/2) iron depletions and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

Cg3—44 to 68 inches; grayish brown (10YR 5/2) silt loam; massive; friable; common medium faint dark grayish brown (10YR 4/2) and 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; few medium rounded dark brown (7.5YR 3/2) iron-manganese nodules; slightly acid; clear smooth boundary.

Ab—68 to 80 inches; very dark grayish brown (10YR 3/2) silt loam; moderate fine subangular blocky structure; friable; few fine rounded black (10YR 2/1) iron-manganese nodules; slightly acid.

Range in Characteristics

Texture of the particle-size control section: Averages between 10 and 18 percent clay and less than 15 percent fine sand or coarser

Depth to a buried soil (if it occurs): More than 60 inches

Other features: Some pedons have an A horizon. This horizon is 1 to 3 inches thick.

Ap horizon:

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 to 4

Texture—silt loam

A horizon (if it occurs):

Value—3 or 4 (5 or 6 dry)

Chroma—1

C or Cg horizon (upper part):

Hue—10YR or 7.5YR
Value—4 to 6
Chroma—1 to 4
Texture—silt loam

C or Cg horizon (lower part):

Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 to 6
Texture—silt loam; loam and thin strata of fine sandy loam or sandy loam below a depth of 40 inches

3333A—Wakeland silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Silty alluvium

Flooding frequency: Frequent

Map Unit Composition

Wakeland and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that are more acid than the Wakeland soil
- Soils that contain more sand in the substratum than the Wakeland soil
- Soils that have a dark buried soil above a depth of 60 inches

Dissimilar soils:

- The poorly drained Birds soils in the lower landform positions
- The moderately well drained Wilbur soils; in positions closer to the streams than those of the Wakeland soil

8333A—Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Somewhat poorly drained

Dominant parent material: Silty alluvium

Flooding frequency: Occasional

Map Unit Composition

Wakeland and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that are more acid than the Wakeland soil
- Soils that contain more sand in the substratum than the Wakeland soil
- Soils that have a dark buried soil above a depth of 60 inches

Dissimilar soils:

- The poorly drained Birds soils in the lower landform positions
- The well drained Haymond soils; in positions closer to the streams than those of the Wakeland soil

Wakenda Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Argiudolls

Typical Pedon

Wakenda silt loam, in a moderately sloping area in a cultivated field, at an elevation of about 500 feet above mean sea level; about 2.5 miles east of Belleville, in St. Clair County, Illinois; approximately 1,900 feet west and 1,300 feet south of the northeast corner of sec. 30, T. 1 N., R. 7 W.; USGS O'Fallon, Illinois, topographic quadrangle; lat. 38 degrees 30 minutes 32 seconds N. and long. 89 degrees 55 minutes 01 second W., NAD 27:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; many very fine and common fine roots; about 22 percent clay; slightly acid; abrupt smooth boundary.

AB—8 to 13 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine subangular blocky structure parting to moderate fine granular; friable; many very fine and few fine roots; few fine and medium continuous tubular pores; fragments of brown (10YR 4/3) subsoil material mixed by cultivation; common faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; about 25 percent clay; slightly acid; clear smooth boundary.

Bt1—13 to 21 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; firm; many very fine and few fine roots; few fine continuous tubular pores; many distinct dark brown (10YR 3/3) organo-clay films on faces of

pedes; about 29 percent clay; moderately acid; clear smooth boundary.

Bt2—21 to 29 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine prismatic structure parting to moderate fine and medium subangular blocky; firm; common very fine roots; few fine continuous tubular pores; many distinct dark yellowish brown (10YR 3/4) organo-clay films on faces of pedes; about 32 percent clay; slightly acid; gradual smooth boundary.

Bt3—29 to 39 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; few fine continuous tubular pores; many distinct dark yellowish brown (10YR 3/4) organo-clay films on faces of pedes; about 31 percent clay; slightly acid; gradual smooth boundary.

Bt4—39 to 49 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; common very fine roots; common fine and medium continuous tubular pores; common distinct dark yellowish brown (10YR 3/4) organo-clay films on faces of pedes and few prominent dark brown (10YR 3/3) organo-clay films lining root channels and pores; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; about 29 percent clay; slightly acid; gradual smooth boundary.

BCt—49 to 60 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium and coarse subangular blocky structure; friable; few very fine roots; few very fine and fine vesicular and tubular pores; few faint brown (10YR 4/3) clay films on vertical faces of pedes and few distinct dark brown (10YR 3/3) organo-clay films lining root channels and pores; few fine faint brown (10YR 5/3) iron depletions and few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; about 26 percent clay; slightly acid; gradual smooth boundary.

C—60 to 80 inches; yellowish brown (10YR 5/4) silt loam; massive; very friable; few very fine roots; common fine and medium vesicular and tubular pores; few fine faint pale brown (10YR 6/3) iron depletions and few medium distinct brown (7.5YR 4/4) masses of iron accumulation in the matrix; about 21 percent clay; slightly acid.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to more than 65 inches

Thickness of the loess: 80 inches or more

Thickness of the mollic epipedon: 10 to 20 inches

Ap and/or A horizon:

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 to 3

Texture—silt loam

Bt horizon:

Hue—7.5YR or 10YR

Value—3 or 4 (upper part); 4 or 5 (lower part)

Chroma—3 or 4

Texture—silty clay loam or silt loam

C horizon:

Hue—10YR

Value—4 or 5

Chroma—2 to 4

Texture—silt loam or silty clay loam

441B—Wakenda silt loam, 2 to 5 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Convex summits

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Wakenda and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have thinner dark surface layer than that of the Wakenda soil
- Soils that contain more clay in the subsoil than the Wakenda soil
- Soils in which the water table is closer to the surface than that in the Wakenda soil

Dissimilar soils:

- The somewhat poorly drained Edwardsville soils in the lower landform positions

441C2—Wakenda silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Convex summits, shoulders, and backslopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Wakenda and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have thinner dark surface layer than that of the Wakenda soil
- Soils that contain more clay in the surface layer than the Wakenda soil
- Soils in which the water table is closer to the surface than that in the Wakenda soil

Dissimilar soils:

- The somewhat poorly drained Edwardsville soils in the lower landform positions

Weir Series

Taxonomic classification: Fine, smectitic, mesic Typic Endoaqualfs

Typical Pedon

Weir silt loam, in a nearly level area in a cultivated field, at an elevation of about 475 feet above mean sea level; about 3.5 miles southwest of Marine, in Madison County, Illinois; approximately 1,410 feet east and 2,600 feet south of the northwest corner of sec. 36, T. 4 N., R. 7 W.; USGS Marine, Illinois, topographic quadrangle; lat. 38 degrees 45 minutes 04 seconds N. and long. 89 degrees 49 minutes 53 seconds W., NAD 27:

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many very fine roots; few fine rounded black (7.5YR 2.5/1) iron-manganese nodules with sharp boundaries; neutral; abrupt smooth boundary.

Eg1—9 to 14 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; moderate medium platy structure parting to weak fine granular; friable; common very fine roots; few fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; common fine irregular strong brown (7.5YR 4/6) masses of iron-

manganese accumulation and few fine rounded black (7.5YR 2.5/1) iron-manganese nodules with sharp boundaries; slightly acid; clear smooth boundary.

Eg2—14 to 18 inches; light brownish gray (10YR 6/2) silt loam, light gray (10YR 7/2) dry; weak thick platy structure parting to moderate fine subangular blocky; friable; few very fine roots; common distinct very pale brown (10YR 8/2) (dry) clay depletions on faces of peds and lining root channels; common fine irregular strong brown (7.5YR 4/6) masses of iron-manganese accumulation and few fine and medium rounded black (7.5YR 2.5/1) iron-manganese nodules with sharp boundaries; moderately acid; clear smooth boundary.

Btg1—18 to 32 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine prismatic structure parting to moderate fine and medium subangular blocky; firm; few very fine roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few prominent very pale brown (10YR 8/2) (dry) clay depletions 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 strong brown (7.5YR 5/6) masses of iron-manganese accumulation and common fine and medium rounded black (7.5YR 2.5/1) iron-manganese nodules with sharp boundaries; strongly acid; clear smooth boundary.

Btg2—32 to 44 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate fine prismatic structure parting to moderate medium subangular blocky; 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 fine and medium irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation and common fine and medium rounded black (7.5YR 2.5/1) iron-manganese nodules with sharp boundaries; moderately acid; gradual smooth boundary.

Btg3—44 to 62 inches; grayish brown (2.5Y 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; many fine and medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular black (7.5YR 2.5/1) iron-manganese nodules with clear strong brown

(7.5YR 4/6) boundaries; moderately acid; gradual smooth boundary.

BCtg—62 to 72 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse subangular blocky structure; friable; common distinct dark grayish brown (2.5Y 4/2) clay films on vertical faces of peds; common medium and coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 4/6) boundaries; slightly acid; gradual smooth boundary.

Cg—72 to 80 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; common medium and coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common medium and coarse irregular black (7.5YR 2.5/1) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 4/6) boundaries; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 35 to more than 60 inches

Content of clay in the particle-size control section:
Averages between 35 and 40 percent; as much as 45 percent in individual subhorizons

Ap or A horizon:

Hue—10YR
Value—4 or 5 (6 or 7 dry)
Chroma—1 or 2
Texture—silt loam

Eg horizon:

Hue—10YR or 2.5Y
Value—5 to 7 (6 to 8 dry)
Chroma—2
Texture—silt loam

Btg horizon:

Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay

BCg horizon (if it occurs):

Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam or silty clay loam

Cg horizon (if it occurs):

Hue—10YR, 2.5Y, 5Y, or N
Value—4 to 6

Chroma—0 to 2
Texture—silt loam

165A—Weir silt loam, 0 to 2 percent slopes

Setting

Landform: Loess-covered till plains

Position on the landform: Interfluves and depressions

Soil Properties and Qualities

Drainage class: Poorly drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Weir and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that have a darker surface layer than that of the Weir soil
- Soils that contain more clay in the upper part of the subsoil than the Weir soil

Dissimilar soils:

- The somewhat poorly drained Caseyville soils in the higher landform positions
- Small areas of depressional soils that remain wet for periods that extend into the growing season

Wilbur Series

Taxonomic classification: Coarse-silty, mixed, superactive, mesic Fluvaquent Eutrudepts

Typical Pedon

Wilbur silt loam, in a nearly level area in a cultivated field, at an elevation of about 445 feet above mean sea level; about 1 mile north of Columbia, in 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., NAD 27:

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; few fine constricted tubular pores; about 18 percent clay; 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; common fine and medium continuous tubular pores; few medium rounded black (7.5YR 2.5/1) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; about 17 percent clay; 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 and medium continuous tubular pores; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; few fine irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation and few fine and medium rounded black (7.5YR 2.5/1) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; about 16 percent clay; 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 very fine and fine constricted tubular pores; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; common fine irregular strong brown (7.5YR 5/6) masses of iron-manganese accumulation and few fine rounded black (7.5YR 2.5/1) iron-manganese nodules with clear strong brown (7.5YR 5/6) boundaries; few thin strata of light yellowish brown (10YR 6/4); about 16 percent clay; 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 constricted tubular pores; few fine distinct dark yellowish brown (10YR 3/4) masses of iron accumulation in the matrix; common fine irregular black (7.5YR 2.5/1) and brown (7.5YR 4/4) masses of iron-manganese accumulation; about 22 percent clay; neutral.

Range in Characteristics

Depth to the base of the cambic horizon: 24 to 42 inches

Depth to a buried soil (if it occurs): More than 60 inches

Texture of the particle-size control section: Averages between 10 and 18 percent clay, less than 15 percent fine sand or coarser, and less than 15 percent very fine sand

Content of rock fragments: Less than 1 percent throughout the profile

Reaction: Moderately acid to slightly alkaline

Ap or A horizon:

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 to 4

Texture—silt loam

Bw horizon:

Hue—10YR

Value—4 to 6

Chroma—3 to 6

Texture—silt loam

C or Cg horizon:

Hue—10YR

Value—4 to 6

Chroma—2 to 6

Texture—silt loam; loam and thin strata of fine sandy loam or sandy loam below a depth of 40 inches

3336A—Wilbur silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Silty alluvium

Flooding frequency: Frequent

Map Unit Composition

Wilbur and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain more sand in the subsoil and substratum than the Wilbur soil
- Soils that contain more clay in the subsoil than the Wilbur soil
- Soils that have a dark buried soil above a depth of 60 inches

Dissimilar soils:

- The poorly drained Birds and somewhat poorly drained Wakeland soils in the lower landform positions

Winfield Series

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

Typical Pedon

Winfield silt loam, on a south-facing, convex slope of 3 percent, in a cultivated field, at an elevation of about 540 feet above mean sea level; about 3 miles north of

O'Fallon, in St. Clair County, Illinois; approximately 205 feet east and 610 feet south of the northwest corner of sec. 9, T. 2 N., R. 7 W.; USGS Collinsville, Illinois, topographic quadrangle; lat. 38 degrees 38 minutes 32 seconds N. and long. 89 degrees 53 minutes 27 seconds W., NAD 27:

- 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 roots; about 22 percent clay; neutral; abrupt smooth boundary.
- E—9 to 13 inches; brown (10YR 5/3) silt loam, pale brown (10YR 6/3) dry; weak medium platy structure parting to moderate very fine subangular blocky; friable; common very fine roots; few faint light gray (10YR 7/2) (dry) clay depletions on faces of peds; few fine rounded black (10YR 2/1) iron-manganese nodules with sharp boundaries; about 25 percent clay; moderately acid; clear smooth boundary.
- Bt1—13 to 21 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; firm; common very fine roots; few distinct light gray (10YR 7/2) (dry) clay depletions along root channels; many distinct brown (10YR 4/3) clay films on faces of peds; common fine and medium rounded black (10YR 2/1) iron-manganese nodules with sharp strong brown (7.5YR 4/6) boundaries; about 33 percent clay; moderately acid; clear smooth boundary.
- Bt2—21 to 30 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; common very 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 fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine rounded black (10YR 2/1) iron-manganese nodules with sharp strong brown (7.5YR 4/6) boundaries; about 32 percent clay; strongly acid; gradual smooth boundary.
- Btg1—30 to 40 inches; light brownish gray (10YR 6/2) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine and medium distinct yellowish brown (10YR 5/4) and few 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 iron-manganese accumulation with clear strong brown (7.5YR 4/6) boundaries; about 30 percent clay; moderately acid; clear smooth boundary.

- Btg2—40 to 56 inches; light brownish gray (10YR 6/2) silty clay loam; weak medium prismatic structure parting to weak medium and coarse subangular blocky; firm; few very fine roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; many medium and coarse 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 iron-manganese accumulation with clear strong brown (7.5YR 4/6) boundaries; about 28 percent clay; moderately acid; clear smooth boundary.
- BCtg—56 to 62 inches; light brownish gray (2.5Y 6/2) silt loam; weak medium angular blocky structure; friable; few very fine roots; few faint brown (10YR 5/3) clay films on faces of peds; common fine and medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; common medium irregular black (10YR 2/1) masses of iron-manganese accumulation with diffuse strong brown (7.5YR 5/6) boundaries; about 25 percent clay; slightly acid; gradual smooth boundary.
- Cg—62 to 80 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; common medium and coarse prominent strong brown (7.5YR 4/6) and few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium and coarse irregular black (10YR 2/1) masses of iron manganese accumulation with diffuse strong brown (7.5YR 5/6) boundaries; about 20 percent clay; neutral.

Range in Characteristics

Depth to the base of the argillic horizon: 35 to 65 inches

Thickness of the loess: 80 inches or more

Texture of the particle-size control section: Averages between 27 and 35 percent clay and less than 7 percent sand

Reaction: Very strongly acid to neutral

Other features: Some pedons have an A horizon, which is less than 6 inches thick.

Ap horizon:

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 or 3

Texture—silt loam or silty clay loam

A horizon (if it occurs):

Value—3 or 4 (5 or 6 dry)

Chroma—2 or 3

E horizon (if it occurs):

Hue—10YR

Value—4 to 6 (6 to 8 dry)
 Chroma—2 to 4
 Texture—silt loam or silty clay loam

BE horizon (if it occurs):

Hue—7.5YR or 10YR
 Value—4 or 5
 Chroma—3 or 4
 Texture—silt loam or silty clay loam

Bt horizon (upper part):

Hue—7.5YR or 10YR
 Value—4 or 5
 Chroma—3 to 6
 Texture—silty clay loam

Bt horizon (lower part) and Btg horizon:

Hue—7.5YR, 10YR, or 2.5Y
 Value—4 to 6
 Chroma—1 to 6
 Texture—silt loam or silty clay loam

C or Cg horizon:

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: Loess-covered till plains

Position on the landform: Summits

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Winfield and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Winfield soil
- Soils that contain carbonates in the substratum
- Soils that are moderately eroded; near the edge of the mapped areas

Dissimilar soils:

- The well drained Menfro soils on the higher or more convex summits

- The somewhat poorly drained Caseyville soils in the lower landform positions

477B3—Winfield silty clay loam, 2 to 5 percent slopes, severely eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Convex summits, shoulders, and backslopes

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Winfield and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Winfield soil
- Soils that contain carbonates in the substratum
- Soils that have slopes of more than 5 percent

Dissimilar soils:

- The well drained Menfro soils on the higher or more convex summits
- The somewhat poorly drained Caseyville soils in the lower landform positions

477C2—Winfield silt loam, 5 to 10 percent slopes, eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Convex summits, shoulders, and backslopes

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Winfield and similar soils: 90 percent

Dissimilar soils: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Winfield soil
- Soils that contain carbonates in the substratum
- Areas of soils that are severely eroded

Dissimilar soils:

- The well drained Menfro soils in the higher or more convex landform positions
- The somewhat poorly drained Caseyville soils at the head of drainageways

477C3—Winfield silty clay loam, 5 to 10 percent slopes, severely eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Convex summits, shoulders, and backslopes

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Winfield and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Winfield soil
- Soils that contain carbonates in the substratum
- Areas of soils that are less eroded than the Winfield soil

Dissimilar soils:

- The well drained Menfro soils in the higher or more convex landform positions
- The somewhat poorly drained Caseyville soils at the head of drainageways

477D3—Winfield silty clay loam, 10 to 18 percent slopes, severely eroded

Setting

Landform: Loess-covered till plains

Position on the landform: Erosional side slopes

Soil Properties and Qualities

Drainage class: Moderately well drained

Dominant parent material: Loess

Flooding: None

Map Unit Composition

Winfield and similar soils: 85 percent

Dissimilar soils: 15 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Winfield soil
- Soils that contain carbonates in the substratum
- Areas of soils that are less eroded than the Winfield soil

Dissimilar soils:

- The well drained Menfro soils in the higher or more convex landform positions
- The somewhat poorly drained Wakeland soils on narrow flood plains

2477B—Winfield-Orthents-Urban land complex, 2 to 8 percent slopes

Setting

Landform: Loess-covered till plains

Component Properties and Qualities

Winfield

Drainage class: Moderately well drained

Dominant parent material: Loess

Flooding: None

Orthents

• Orthents consist of soil materials that have been altered by extensive leveling, cutting, and filling. Individual soil horizons are generally no longer distinguishable.

Urban land

• Urban land consists of areas covered by surfaces or structures that so obscure or alter the soils that identification of the soil series is not possible. Urban land consists mostly of shopping centers, industrial plants, other commercial sites, and streets and parking lots.

Map Unit Composition

Winfield and similar soils: 40 percent

Orthents: 30 percent

Urban land: 20 percent

Dissimilar components: 10 percent

Minor Components

Similar soils:

- Soils that contain less clay in the subsoil than the Winfield soil
- Soils that contain carbonates in the substratum
- Areas of soils that are eroded

Dissimilar components:

- The well drained Menfro soils in the higher or more convex landform positions
- The somewhat poorly drained Caseyville soils in the lower landform positions

Worthen Series

Taxonomic classification: Fine-silty, mixed, superactive, mesic Cumulic Hapludolls

Typical Pedon

Worthen silt loam, in a nearly level area in a cultivated field, at an elevation of about 425 feet above mean sea level; about 1 mile north of Caseyville, in St. Clair County, Illinois; approximately 670 feet west and 1,500 feet north of the southeast corner of sec. 6, T. 2 N., R. 8 W.; USGS Monks Mound, Illinois, topographic quadrangle; lat. 38 degrees 38 minutes 52 seconds N. and long. 90 degrees 01 minute 26 seconds W., NAD 27:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; very friable; common very fine roots; few very fine and fine tubular pores; about 18 percent clay; slightly acid; abrupt smooth boundary.

A—8 to 21 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine and medium granular structure; friable; common very fine roots; few very fine and fine tubular pores; about 20 percent clay; slightly acid; clear smooth boundary.

AB—21 to 30 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine subangular blocky structure parting to weak fine granular; friable; few very fine roots; common very fine and fine tubular pores; about 21 percent clay; slightly acid; clear smooth boundary.

Bw1—30 to 46 inches; brown (10YR 4/3) silt loam; weak fine and medium subangular blocky structure; friable; few very fine roots; few very fine tubular pores; very few distinct very dark grayish brown (10YR 3/2) organo-clay films in root channels and in pores; very few distinct very pale brown (10YR 7/3) (dry) clay depletions on faces of

pedes; about 25 percent clay; slightly acid; clear smooth boundary.

Bw2—46 to 63 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; few very fine roots; few very fine tubular pores; very few distinct very dark grayish brown (10YR 3/2) organo-clay films in root channels and in pores; few distinct very pale brown (10YR 7/3) (dry) clay depletions on faces of pedes; about 23 percent clay; slightly acid; clear smooth boundary.

C—63 to 80 inches; brown (10YR 4/3) silt loam; massive; friable; about 26 percent clay; neutral.

Range in Characteristics

Depth to the base of the cambic horizon: 30 to 70 inches

Thickness of the mollic epipedon: 24 to 36 inches; the mollic epipedon includes the upper part of the Bw horizon in some pedons

Content of clay in the particle-size control section: Averages between 18 and 24 percent

Depth to carbonates (if they occur): Carbonates are in the C horizon below a depth of 50 inches.

Other features: Some pedons have a BA horizon. Some pedons have a BC horizon.

Ap and A horizons:

Hue—10YR
Value—2 or 3 (4 or 5 dry)
Chroma—1 to 3
Texture—silt loam

Bw horizon:

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

C horizon:

Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam

7037A—Worthen silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Alluvial fans and footslopes

Soil Properties and Qualities

Drainage class: Well drained

Dominant parent material: Silty local alluvium
Flooding frequency: Rare

Map Unit Composition

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

Minor Components

Similar soils:

- Soils that have a thinner dark surface layer than that of the Worthen soil
- Soils that contain more clay in the subsoil and/or substratum than the Worthen soil
- Soils that have carbonates above a depth of 50 inches

Dissimilar soils:

- The somewhat poorly drained Littleton soils in the lower landform positions
- The well drained Haymond soils along drainageways

7037B—Worthen silt loam, 2 to 5 percent slopes, rarely flooded

Setting

Landform: Alluvial fans and footslopes

Soil Properties and Qualities

Drainage class: Well drained
Dominant parent material: Silty local alluvium
Flooding frequency: Rare

Map Unit Composition

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

Minor Components

Similar soils:

- Soils that have a thinner dark surface layer than that of the Worthen soil
- Soils that contain more clay in the subsoil and/or substratum than the Worthen soil
- Soils that contain carbonates above a depth of 50 inches

Dissimilar soils:

- The somewhat poorly drained Littleton soils in the lower landform positions
- The well drained Haymond soils along drainageways

Use and Management of the Soils

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

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

Information in this section can be used to plan the use and management of soils for crops and pasture; as 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. 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*, *poor*, and *very poor*.

Numerical Ratings

Numerical ratings are given in some of the tables. These ratings 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 recent years, the acreage used for soybeans and wheat has increased in Madison County because of popular use of a rotation of wheat double-cropped with

soybeans. This rotation allows the harvesting of two cash crops each year. The soils in the county have good potential for continued crop production, especially if the latest crop production technology is applied. This soil survey can be used as a guide for applying the latest crop production technologies.

The demand for food and fiber has increased in recent years. As a result, some land of marginal quality has been used for crops. Much of this land is more susceptible to erosion than the more productive land. Also, the number of residential tracts has increased in parts of the county. These tracts commonly are in areas of prime farmland. If these trends continue, they could result in a significant decline in the quality and quantity of the land used for food and fiber.

The major soil management concerns affecting cropland in the county are water erosion, excessive permeability, surface crusting, poor tilth, wetness, ponding, restricted permeability, and droughtiness.

Erosion is a potential problem on approximately 70 percent of the cropland in the county. Erosion can be a problem on soils that have slopes of more than 2 percent, such as Bunkum, Elco, Hickory, and Menfro soils.

Loss of the surface layer is damaging for several reasons. Soil productivity is reduced as the surface soil is removed and part of the subsoil is incorporated into the plow layer. The subsoil is generally lower in plant nutrients, lower in organic matter, and higher in clay content compared to the surface soil. As the content of organic matter decreases in the plow layer and the content of clay increases, soil tilth deteriorates, resulting in soil crusting and a reduced rate of water infiltration. Erosion results in the sedimentation of streams, rivers, road ditches, and lakes. This pollution caused by sedimentation reduces the quality of water for agriculture, for municipal and recreational uses, and for fish and wildlife. Removing the sediment generally is expensive. Controlling erosion helps to minimize this pollution and improves water quality.

Erosion-control measures include both cultural and structural practices. The most widely used practice in the county is a system of conservation tillage, such as mulch tillage and zero tillage. These systems can leave 30 to 90 percent of the surface covered with crop residue. Another cultural practice is a crop rotation that includes 1 or more years of close-growing grasses or legumes. In areas where slopes are long and uniform, terraces and contour farming also are effective in controlling erosion.

Structural practices are needed in drainageways where concentrated runoff flows overland. Erosion can

be controlled by establishing grassed waterways or installing erosion-control structures.

Further information about erosion-control measures suitable for each kind of soil is provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

Soils that have excessive permeability, such as Bloomfield and Rocher soils, have the potential for ground-water contamination. These soils contain sandy deposits within a depth of 40 inches and are very rapidly permeable in the lower part of the profile.

Several measures can be used to limit the amount of deep leaching of nutrients and pesticides. On all soils, applications of fertilizer should be based on the results of soil tests. The local office of the Cooperative Extension Service can help in determining the proper kinds and amounts of nutrients to be used. Chemicals should be selected according to their solubility in water, their ability to bind with the soil, and the rate of their breakdown in the soil. Splitting chemical applications, particularly nitrogen, is beneficial. This practice, rather than a one-time application, reduces the chance for excessive leaching. Another measure is planting legumes in a crop rotation or as a cover crop. This practice adds nitrogen to the soil, thereby reducing the amount of nitrogen needed in chemical applications. The practice of crop rotation is also effective in limiting the build-up of weed and insect populations and thus reduces the amount of herbicides and insecticides needed per application. Finally, a rotation of small grain cover crops following fertilized corn crops can be effective in taking up some residual nitrogen from the soil.

Drainage systems have been installed in most areas of poorly drained and somewhat poorly drained soils used as cropland in the county. As a result, these soils are adequately drained for the crops commonly grown. Measures that maintain the drainage system are needed. Poorly drained soils, such as Burksville, Pierron, and Virden soils, have subsurface drainage. In addition, surface tile inlets or shallow surface ditches are needed to remove excess water in some areas of poorly drained soils. In some places, somewhat poorly drained soils are wet long enough that in some years productivity is reduced unless they are artificially drained. Somewhat poorly drained soils, such as Caseyville and Marine soils, have subsurface drainage.

Soil tilth is an important factor influencing the germination of seeds, the amount of runoff, and the rate of water infiltration. Soils that have good tilth are granular and porous and have a high content of organic matter.

Surface crusting can be a problem in areas of Marine and Pierron soils. The surface layer in these soils is silt loam and has a low content of organic matter. Generally, the structure of these soils is weak, and a crust forms on the surface during periods of intense rainfall. This crust is hard when dry. It inhibits seedling emergence, reduces the infiltration rate, and increases runoff and erosion. Regular additions of crop residue, manure, and other organic material improve soil structure and minimize crusting.

Poor tilth is also a problem on soils that have a surface layer of silty clay loam or silty clay. If poorly drained soils, such as Darwin and Fults soils, are plowed when wet, the surface layer can become cloddy. The cloddiness hinders the preparation of a good seedbed. Tilling in the fall and leaving the soil surface rough with moderate amounts of crop residue generally result in good tilth in the spring. A system of strip tillage or ridge tillage may also be effective on these soils.

Restricted permeability in the soil can increase the susceptibility to erosion. As water movement slows within a soil, the rate of runoff increases. The slowly permeable Colp soils have a higher soil erodibility potential than the moderately permeable Winfield soils. The effects of restricted permeability can be controlled by applying a cropping system that leaves crop residue on the surface after planting, incorporating green manure crops or crop residue into the soil, and using conservation cropping systems.

Restricted permeability can also limit the effectiveness of drainage systems. In the slowly permeable Burksville soils, a narrower tile spacing is needed than in the moderately slowly permeable Virden soils in order to lower the water table effectively.

A low available water capacity limits the productivity of some soils used for crops in the county. The physical composition of these soils, such as Bloomfield and Rocher soils, limits the amount of available water necessary for optimum plant growth. The effects of droughtiness in these soils can be minimized by reducing the amount of runoff and increasing the water-holding capacity of the soil. Using a conservation tillage system and returning crop residue and other organic material to the soil help to overcome droughtiness. Planting such crops as winter wheat can help to avoid the drought-prone season. Also, irrigation helps to overcome droughtiness.

Hay is a very important crop in the county for dairy and beef production and for people who own small acreages and have horses for recreational purposes. There are some permanent hay and pasture fields in the county, but most producers rotate their hay

seeding between 1 to several years of row crops, such as corn and soybeans.

Proper management is needed on hayland to maintain or improve the life of desirable forage species, to maintain or improve the quality and quantity of forage, and to control erosion and reduce runoff. Hay may last as a vigorous crop for 4 or 5 years, depending on management and on the varieties seeded. Suitable hay plants include several legumes and grasses. Alfalfa is the most common legume grown for hay. It is often used in mixtures with smooth bromegrass and orchardgrass. Alfalfa is best suited to well drained soils, such as Menfro and Ruma soils. Red clover also is grown for hay. Measures that maintain or improve fertility are needed. The amount of lime and fertilizer to be added should be based on the results of soil tests, the needs of the plants, and the expected level of yields. Seed varieties should be selected in accordance with the soil properties and the drainage conditions of the tract of land.

Limitations Affecting Crops and Pasture

The management concerns affecting the use of the detailed soil map units in the survey area for crops and pasture are shown in table 5. The main concerns in managing cropland are controlling water erosion, soil wetness, and ponding; minimizing surface crusting; improving poor tilth; and limiting the effects of excessive permeability, restricted permeability, and low available water capacity. The major management concerns affecting pasture are water erosion, soil fertility, low available water capacity, low pH, and equipment limitations.

Cropland

Generally, a combination of several practices is needed to control water erosion. Conservation tillage, stripcropping, contour farming, conservation cropping systems, crop residue management, diversions, and grassed waterways help to minimize excessive soil loss.

Wetness is a limitation in some areas used as cropland, and ponding is a hazard. Drainage systems consist of subsurface tile drains, surface inlet tile, open drainage ditches, or a combination of these. Measures that maintain the drainage system are needed.

Practices that minimize surface crusting and improve soil tilth include incorporating green manure crops, manure, or crop residue into the soil and using a system of conservation tillage. Surface cloddiness can be controlled by avoiding tillage when the soil is too wet.

Excessive permeability can cause deep leaching of

nutrients and pesticides. Selecting appropriate chemicals and using split application methods reduce the hazard of ground-water contamination.

Restricted permeability can be overcome by incorporating green manure crops, manure, or crop residue into the soil; applying a system of conservation tillage; and using conservation cropping systems.

Conserving moisture is important in areas where the soils have a low available water capacity. It primarily involves reducing the evaporation and runoff rates and increasing the rate of water infiltration.

Applying conservation tillage and conservation cropping systems, farming on the contour, stripcropping, establishing field windbreaks, and leaving crop residue on the surface conserve moisture.

Some of the limitations and hazards shown in the table cannot be easily overcome. These are flooding, depth to bedrock, and subsidence.

Limitations and hazards include:

Excess lime.—This limitation can be overcome by incorporating green manure crops, manure, or crop residue into the soil; applying a system of conservation tillage; and using conservation cropping systems. Also, crops may respond well to additions of phosphate fertilizer to soils that have a high content of lime.

Depth to bedrock.—Rooting depth and available moisture may be limited by bedrock within a depth of 30 inches.

Flooding.—Winter small grain crops can be damaged. Tilling and planting should be delayed in the spring until flooding is no longer a hazard.

Subsidence.—Subsidence occurs as a result of shrinkage from drying, consolidation because of the loss of ground water, compaction from tillage, wind erosion, burning, and biochemical oxidation. Limiting the amount of drainage, avoiding excessive tillage and tillage when the soil is wet, and using a system of conservation tillage that leaves crop residue on the surface after planting help to control subsidence.

Wind erosion.—Using a system of conservation tillage that leaves crop residue on the surface after planting and keeping the surface rough help to control this hazard.

The criteria used to determine some of the limitations or hazards in the table are described in the following paragraphs.

Crusting.—The average content of organic matter in the surface layer is less than 2.5 percent, and the clay content is greater than 20 percent.

Depth to bedrock.—Bedrock is within a depth of 30 inches.

Excess lime.—The calcium carbonate equivalent is 15 percent or more, and the calcic horizon classification criteria are met.

Excessive permeability.—The upper limit of the permeability range is 6 inches or more within the soil profile.

Flooding.—The component of the map unit is occasionally flooded or frequently flooded.

Low available water capacity.—The weighted average of the available water capacity between the surface and a depth of 40 inches is 0.1 inch or less.

Ponding.—A water table is above the surface.

Poor tilth.—The component of the map unit has 27 percent or more clay in the surface layer.

Restricted permeability.—Permeability is less than 0.2 inch per hour between the surface and a depth of 40 inches.

Subsidence.—The decrease in surface elevation is more than 0 inches.

Water erosion.—The K factor of the surface layer multiplied by the slope is greater than 0.8, and the slope is 3 percent or more.

Wetness.—The component of the map unit has a water table within a depth of 1.5 feet.

Wind erosion.—The wind erodibility group (WEG) is 1 or 2.

Pastureland

Growing legumes, cool-season grasses, and warm-season grasses that are suited to the soils and climate of the area helps to maintain a productive stand of pasture.

Pastureland soils that are susceptible to water erosion meet the following criteria: The value of the K factor multiplied by the slope is greater than 0.8, and the slope is equal to or greater than 3 percent.

Water erosion reduces the productivity of pastureland. It also results in onsite and offsite sedimentation, causes water pollution by sedimentation, and increases the runoff of livestock manure and other added nutrients.

Measures that are effective in controlling water erosion include establishing or renovating stands of legumes and grasses. Controlling erosion during seedbed preparation is a major concern. If the soil is tilled for the reseeded of pasture or hay crops, planting winter cover crops, establishing grassed waterways, farming on the contour, and using a system of conservation tillage that leaves a protective cover of crop residue on the surface can help to minimize erosion.

Overgrazing or grazing when the soil is wet reduces the extent of plant cover and results in surface

compaction and poor tilth, and thus it increases the susceptibility to erosion. Proper stocking rates, rotation grazing, and timely deferment of grazing, especially during wet periods, help to keep the pasture in good condition. The proper location of livestock watering facilities helps to minimize surface compaction or the formation of ruts by making it unnecessary for cattle to travel long distances up and down the steep slopes.

Soils that have low fertility meet the following criteria: The average content of organic matter in the surface layer is less than 1 percent, and the cation-exchange capacity is equal to or less than 7 milliequivalents per 100 grams of soil.

Low fertility levels affect the health and vigor of the plants and thus have a direct impact on the quantity and quality of livestock produced. Additions of fertilizers and other organic material should be based on the results of soil tests, on the needs of specific plant species, and on the desired level of production.

Soils that have low pH, or low reaction, have a pH value equal to or less than 5.5 in the surface layer.

Low pH inhibits the uptake of certain nutrients by the plants or accelerates the absorption of certain other elements to the level of toxic concentrations. Either of these conditions affects the health and vigor of plants. Applications of lime should be based on the results of soil tests. The goal is to achieve the optimum pH level for the uptake of the major nutrients by the specific grass, legume, or combination of grasses and legumes.

Available water capacity is low when it is a weighted average of less than 0.10 inch of water per inch of soil within a depth of 40 inches or when it is a weighted average of less than 3 inches in the root zone if the root zone is less than 40 inches thick. Available water capacity refers to the capacity of soils to hold water available for use by most plants. The quality and quantity of pasture may be reduced if the available water is inadequate for the maintenance of a healthy community of desired pasture species and thus the desired number of livestock. A poor quality pasture may increase the hazard of erosion and increase the runoff of pollutants. Planting drought-resistant species of grasses and legumes helps to establish a cover of vegetation. Irrigation may be needed.

In areas where slopes are 10 percent or more, the use of farm equipment may be restricted.

In areas where the soils have more than 15 percent gravel in the surface layer, seedbed preparation and renovation practices may be hindered. The cobbles and stones can be removed or piled in a corner of the field.

Crop Yield Estimates

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

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents (Fehrenbacher and others, 1978; Olson and Lang, 1994). 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; protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The relative 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 of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Pasture yields.—Under good management, proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and renovation also are important management practices.

Yield estimates are often provided in animal unit months (AUM), or the amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about forage yields other than those shown in table 6.

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 take into account major and generally expensive landshaping 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 generally are grouped at three levels—capability class, subclass, and unit (USDA, 1961). These categories indicate the degree and kinds of limitations affecting mechanized farming systems that produce the more commonly grown field crops, such as corn, soybeans, small grain, and hay. Only class and subclass are used in this survey.

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.

If properly managed, soils in classes 1, 2, 3, and 4 are suitable for the mechanized production of commonly grown field crops and for pasture and forestland. The degree of the soil limitations affecting the production of cultivated crops increases progressively from class 1 to class 4. The limitations can affect levels of production and the risk of permanent soil deterioration caused by erosion and other factors.

Soils in classes 5, 6, and 7 are generally not suited to the mechanized production of commonly grown field crops without special management, but they are suitable for plants that provide a permanent cover, such as grasses and trees. The severity of the soil limitations affecting crops increases progressively from class 5 to class 7. The local office of the Cooperative Extension Service or the Natural Resources Conservation Service can provide guidance on the use of these soils as cropland.

Areas in class 8 are generally not suited to crops, pasture, or forestland without a level of management

that is impractical. These areas may have potential for other uses, such as recreational facilities and wildlife habitat.

Capability subclasses identify the dominant kind of limitation in the class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless a close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

There are no subclasses in class 1 because the soils of this class have few limitations. 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, forestland, wildlife habitat, or recreation.

The capability classification of the soils in the survey area is given in table 6.

Prime Farmland

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. The acreage of high-quality farmland is limited, and the U.S. Department of Agriculture recognizes that government at local, State, and Federal levels, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland soils, as defined by the U.S. Department of Agriculture, are soils that are best suited to food, feed, forage, fiber, and oilseed crops. Such soils have properties that favor the economic production of sustained high yields of crops. The soils need only to be treated and managed by acceptable farming methods. An adequate moisture supply and a sufficiently long growing season are required. Prime farmland soils produce the highest yields with minimal expenditure of energy and economic resource, and farming these soils results in the least damage to the environment.

Prime farmland soils may presently be used as cropland, pasture, or forestland or for other purposes. They either are used for food and fiber or are available for these uses. Urban or built-up land, public land, and water areas cannot be considered prime farmland. Urban or built-up land is any contiguous unit of land 10 acres or more in size that is used for such purposes as housing, industrial, and commercial sites, sites for

institutions or public buildings, small parks, golf courses, cemeteries, railroad yards, airports, sanitary landfills, sewage treatment plants, and water-control structures. Public land is land not available for farming in national forests, national parks, military reservations, and state parks.

Prime farmland soils commonly receive an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable, and the level of acidity or alkalinity and the content of salts and sodium are acceptable. The soils have few, if any, rocks and are permeable to water and air. They are not excessively erodible or saturated with water for long periods, and they are not frequently flooded during the growing season or are protected from flooding. Slopes range mainly from 0 to 6 percent.

Soils that have a high water table, are subject to flooding, or are droughty may qualify as prime farmland where these limitations are overcome by drainage measures, flood control, or irrigation. Onsite evaluation is necessary to determine the effectiveness of corrective measures. More information about the criteria for prime farmland can be obtained at the local office of the Natural Resources Conservation Service.

A recent trend in land use has been the conversion of prime farmland to urban and industrial uses. The loss of prime farmland to other uses puts pressure on lands that are less productive than prime farmland.

About 217,240 acres in the survey area, or nearly 46 percent of the total acreage, meets the soil requirements for prime farmland. Areas of this land are throughout the county. The prime farmland is generally used for crops, mainly corn, soybeans, and wheat, which account for most of the local farm income.

The map units in the survey area that meet the criteria for prime farmland are listed in table 7. This list does not constitute a recommendation for a particular land use. On some soils included in the table, measures that overcome limitations are needed. The need for these measures is indicated in parentheses after the map unit name. The location of each map unit is shown on the detailed soil maps. The soil qualities that affect use and management are described in the section "Soil Series and Detailed Soil Map Units."

Erosion Factors

Soil erodibility (K) and soil-loss tolerance (T) factors are used in an equation that predicts the amount of soil lost through water erosion in areas of cropland. The procedure for predicting soil loss is useful in guiding the selection of soil and water conservation

practices. The erosion factors for the soils in the survey area are listed in table 19.

Soil Erodibility (Kw) Factor

The soil erodibility (Kw) factor indicates the susceptibility of a soil to sheet and rill erosion by water. The soil properties that influence erodibility are those that affect the infiltration rate, the movement of water through the soil, and the water storage capacity of the soil and those that allow the soil to resist dispersion, splashing, abrasion, and the transporting forces of rainfall and runoff. The most important soil properties are the content of silt plus very fine sand, the content of sand coarser than very fine sand, the content of organic matter, soil structure, and permeability.

Fragment-Free Soil Erodibility (Kf) Factor

This is one of the factors used in the Revised Universal Soil Loss Equation (RUSLE). It shows the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Soil-Loss Tolerance (T) Factor

The soil-loss tolerance (T) factor is an estimate of the maximum annual rate of soil erosion that can occur over a sustained period without affecting crop productivity. The rate is expressed in tons of soil loss per acre per year. Ratings of 1 to 5 are used, depending on soil properties and prior erosion. The criteria used in assigning a T factor to a soil include maintenance of an adequate rooting depth for crop production, potential reduction of crop yields, maintenance of water-control structures affected by sedimentation, prevention of gullying, and the value of nutrients lost through erosion.

Wind Erodibility Groups

Wind erodibility is directly related to the percentage of dry, nonerodible surface soil aggregates larger than 0.84 millimeter in diameter. From this percentage, the wind erodibility index (I) factor is determined. This factor is an expression of the stability of the soil aggregates, or the extent to which they are broken down by tillage and the abrasion caused by windblown soil particles. Soils are assigned to wind erodibility groups (WEG) having similar percentages of dry soil aggregates larger than 0.84 millimeter. The wind erodibility groups and wind erodibility index numbers are listed in table 19.

Additional information about wind erodibility groups and K, Kf, T, and I factors can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Forestland Management and Productivity

Madison County was originally mostly forestland. The steep uplands were dominated by oak and hickory; the nearly level uplands supported elm, black walnut, hackberry, wild cherry, and honeylocust; and the flood plains supported cottonwood, sycamore, black walnut, white walnut, ash, elm, pecan, soft maple, and persimmon. Settlers cleared some of the forests for farms, homesteads, and fuel. An increase in the population and the development of new farming technology during the latter part of the 19th century resulted in a large decline in the acreage used as forestland. The demand for agricultural production during the 20th century and urban expansion have accelerated this decline. Much of the remaining forestland is in areas that are too steep or too wet for cultivation. The soils in these areas have fair or good potential for trees of high quality if the forestland is properly managed.

Most of the remaining areas of forestland in Madison County are privately owned. The largest areas are on the deeply dissected uplands near the bluff. The main species on uplands are white oak, northern red oak, and shagbark hickory, and the main species on the flood plains are eastern cottonwood and American sycamore.

Many of the stands can be improved by measures that thin out mature trees and remove undesirable species. Measures that exclude livestock, prevent fires, and control disease and insects also are needed.

Assistance in establishing, improving, or managing forestland is available from foresters or natural resource specialists.

Table 8 provides information regarding the productivity of the soils in the county for forestland. The *potential productivity* for merchantable or *common trees* on a soil is expressed as a *site index* and as a *volume* number. Only those soils suitable for wood crops are listed.

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.

In most cases, the first species listed under *common trees* for a soil is the indicator species for that soil. It generally is the most common species on the soil. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected based on growth rate, quality, value, and marketability.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important trees. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

In tables 9a, 9b, 9c, 9d, and 9e, 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.

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.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erodibility 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 erodibility 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.

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.

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.

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.

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 various soils. The estimates in table 10 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 of the Cooperative Extension Service or from a commercial nursery.

Recreation

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 on a few privately owned tracts.

The potential for further recreational development is favorable throughout the county. The soils having the best potential are along the Mississippi River. The large areas of steep slopes along the bluffs provide a natural setting for the establishment of paths and trails, camp areas, and picnic areas.

The soils of the survey area are rated in tables 11a and 11b according to limitations that affect their suitability for recreation. 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.

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 the tables can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

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 traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

In general, most of the land in Madison County is not managed primarily for wildlife habitat. Good land management practices, however, can improve the value of many areas for wildlife. Farm practices that leave crop residue on the fields during fall and winter not only help to control erosion but also provide winter cover and food for some species of wildlife. Allowing grassed waterways, road ditches, fencelines, set-aside fields, and vacant properties to remain unmowed until early August can provide much-needed habitat for ground-nesting wildlife, such as rabbits, pheasants, and many species of songbirds.

Many temporarily and seasonally flooded wetlands have been impacted by land use practices. Development and cultivation in these wetlands should be avoided. Buffer strips surrounding wetland areas provide food and nesting cover for many wildlife species and prevent these areas from filling in with eroded sediment. Wetlands, streambanks, and woodlots should be fenced so that wildlife are excluded. Fencing protects and maintains the native plant communities that support wildlife species, helps to control erosion, and improves water quality.

When an area is being restored or managed for wildlife habitat, an understanding of the soils on the site is important. Poorly drained or very poorly drained soils, for example, have a seasonal high water table and are likely to support vegetation tolerant of wet conditions. This kind of vegetation attracts wetland wildlife species. In some areas, poorly drained and very poorly drained soils have been drained by subsurface tile drains or drainage ditches. Such areas offer opportunities for the restoration of wetland habitat, as long as negative impacts on neighboring properties can be avoided.

Upland soils support plant communities that were once dominated by prairie grasses and oak savannah habitats. These habitats can be restored by applying management practices that promote or reestablish the native plant species and control or eliminate competing exotic vegetation.

Assistance with wildlife habitat projects is available from various local, State, and Federal agencies, including the Illinois Department of Conservation, the

U.S. Fish and Wildlife Service, the Natural Resources Conservation Service, and the local Soil and Water Conservation District.

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

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

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

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

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture

also are considerations. Examples of grasses and legumes are fescue, lovegrass, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, indiagrass, blueberry, goldenrod, lambsquarter, dandelions, blackberry, beggarweed, wheatgrass, and nightshade.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, box elder, birch, maple, green ash, willow, and hickory. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are hawthorn, honeysuckle, American plum, redosier dogwood, chokecherry, serviceberry, silver buffaloberry, and crabapple.

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

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, wildrice, saltgrass, 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 muskrat marshes, waterfowl feeding areas, beaver ponds, and other ponds.

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

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

areas include bobwhite quail, pheasant, meadowlark, field sparrow, killdeer, 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, owls, thrushes, woodpeckers, tree squirrels, raccoon, and deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

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 each 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 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, 1995). These criteria are used to identify a phase of a soil series that normally is 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, 1998) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period 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 in this survey area are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 1998).

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.

The following map units meet the definition of hydric soils and, in addition, 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 others, 1998).

31A	Pierron silt loam, 0 to 2 percent slopes
50A	Viriden silt loam, 0 to 2 percent slopes
165A	Weir silt loam, 0 to 2 percent slopes
385A	Mascoutah silty clay loam, 0 to 2 percent slopes
474A	Piasa silt loam, 0 to 2 percent slopes
657A	Burksville silt loam, 0 to 2 percent slopes
703A	Pierron-Burksville silt loams, 0 to 2 percent slopes
885A	Viriden-Fosterburg silt loams, 0 to 2 percent slopes
993A	Cowden-Piasa silt loams, 0 to 2 percent slopes
1070L	Beaucoup silty clay loam, undrained, 0 to 2 percent slopes, occasionally flooded, long duration
2071L	Darwin-Aquents-Urban land, 0 to 2 percent slopes, occasionally flooded, long duration (excluding the Urban land component)
3070A	Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded
3070L	Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration
3071L	Darwin silty clay, 0 to 2 percent slopes, frequently flooded, long duration
3334A	Birds silt loam, 0 to 2 percent slopes, frequently flooded

- 8070A Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded
- 8071L Darwin silty clay, 0 to 2 percent slopes, occasionally flooded, long duration
- 8302A Ambraw silty clay loam, 0 to 2 percent slopes, occasionally flooded
- 8334A Birds silt loam, 0 to 2 percent slopes, occasionally flooded
- 8591A Fults silty clay, 0 to 2 percent slopes, occasionally flooded
- 8831A Fluvaquents, clayey, 0 to 2 percent slopes, occasionally flooded

Map units that are made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

Table 13 lists the hydric characteristics of the soils in Madison County. It identifies hydric soils and also nonhydric soils that may have hydric inclusions. This information can help in planning land uses on a specific site; however, onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils (National Research Council, 1995; Hurt and others, 1998).

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, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

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

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

Building Site Development

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 14a and 14b 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 15a and 15b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. 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.

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

Tables 16a and 16b give information about the soils as a source of gravel, sand, reclamation material, roadfill, and topsoil. The soils are rated *good*, *fair*, or *poor* as a source of reclamation material, roadfill, and topsoil. They are rated as a *probable* or *improbable* source of sand and gravel. The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 16a, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Gravel is defined as particles ranging in size from about 0.2 inch to 3 inches in diameter. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

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

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and

calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

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

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

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

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

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

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

material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, bedrock, and toxic material.

Soils rated *good* have friable, loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are low in content of soluble salts, are naturally fertile or respond well to fertilizer, and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel, stones, or soluble salts, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel, stones, or soluble salts, have slopes of more than 15 percent, or have a seasonal high water table at or near the surface.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Tables 17a and 17b 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; constructing grassed waterways and surface drains; constructing terraces and diversions; and tile drains and underground outlets. 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).

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.

Grassed waterways and surface drains are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways and surface drains. A hazard of wind erosion, a low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

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

Tile drains and underground outlets are used in some areas to remove excess subsurface and surface water from the soil. The ratings in the table apply to the soil in its undisturbed condition and do not include consideration of current land use. Depth to bedrock, a dense layer, or a cemented pan, the content of large stones, and the content of clay influence the ease of digging, filling, and compacting. A seasonal high water table, ponding, and flooding may restrict the period when excavations can be made. The slope influences the use of machinery. Soil texture and depth to the water table influence the resistance to sloughing. Subsidence of organic layers influences grade and stability of tile drains.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

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 18 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. 2). "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, 2001) and the system adopted by the American Association

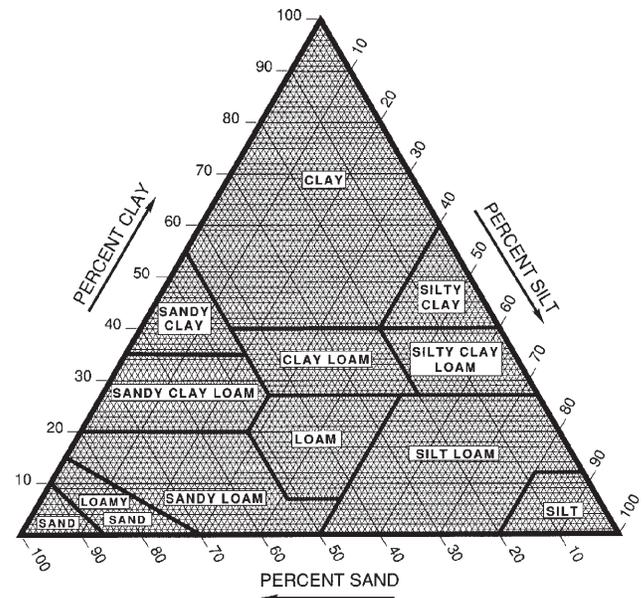


Figure 2.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

of State Highway and Transportation Officials (AASHTO, 2000).

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 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 19 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 table 19, 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 table 19, 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 table 19, 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 (K_{sat}) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). 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 19, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in table 19 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 as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.
- 4L. Calcareous loams, silt loams, clay loams, and silty clay loams.
4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion because of rock fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil

moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 20 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.

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.

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.

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 21 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.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 21 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Also shown in table 21 is 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.

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 21 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

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

Also considered are local information about the extent and levels of flooding and the relation of each

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

Soil Features

Table 22 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed

as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

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Glossary

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

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 in which a slope faces.

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.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

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.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

- Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.
- Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
- Clay depletions.** Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.
- Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.
- Clayey soil.** Silty clay, sandy clay, or clay.
- Closed depression.** A low area completely surrounded by higher ground and having no natural outlet.
- 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.
- COLE (coefficient of linear extensibility).** See Linear extensibility.
- Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.
- Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.
- Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.
- Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.
- Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.
- Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.
- Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."
- Contour stripcropping.** Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.
- Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.
- Corrosion.** Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.
- Cover crop.** A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.
- Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.
- Cropping system.** Growing crops according to a planned system of rotation and management practices.
- 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.

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.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. An area of ground at a lower elevation than the surrounding ground and in which water collects and is drained to a closed depression or lake or to a drainageway at a lower elevation. A drainageway may or may not have distinctly incised channels at its upper reaches or throughout its course.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by

water, wind, ice, or other geologic agents and by such processes as gravitational creep.

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.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

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*.

Fine textured soil. Sandy clay, silty clay, or clay.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

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.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. 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.

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.

Glacial drift (geology). Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.

Glacial outwash (geology). Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

Glacial till (geology). Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

Glaciated uplands. Land areas that were previously covered by continental or alpine glaciers and that are at a higher elevation than the flood plain.

Glaciofluvial deposits (geology). Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

Glaciolacustrine deposits (geology). Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that 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 water (geology). Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser

depth and can be smoothed over by ordinary tillage.

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.

Head slope. 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.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum,

an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

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.

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.

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. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Typical methods of irrigation used in the survey area are:

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.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit (geology). 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.

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.

Loamy soil. Coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam, silt loam, silt, clay loam, sandy clay loam, or silty clay loam.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low strength. The soil is not strong enough to support loads.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

MLRA (Major Land Resource Area). A geographic area characterized by a particular pattern of land uses, 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. An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

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. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. 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 plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Parent material. The unconsolidated organic and mineral material in which soil forms.

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. 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.

Percolation. The movement of water through the soil.

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.

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.

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.

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.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after

exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop. Exposures of bare bedrock other than lava flows and rocklined pits.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandy soil. Sand or loamy sand.

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.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

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. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

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.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slackwater. A still body of water in a stream.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical

distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	2 to 5 percent
Moderately sloping	5 to 10 percent
Strongly sloping	10 to 18 percent
Steep	18 to 35 percent
Very steep	35 to 70 percent

Classes for complex slopes are as follows:

Undulating	1 to 8 percent
Rolling	4 to 16 percent

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

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.

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.

Stream channel. The hollow bed where a natural stream of surface water flows or may flow; the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel. It originally formed near the level of the stream and is the dissected remnants of an abandoned flood plain, streambed, or valley floor that were produced during a former stage of erosion or deposition.

Strippcropping. 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. Technically, the E horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

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.”

Talus. Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine. A belt of thick glacial drift that generally marks the termination of important glacial advances.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand*, *loamy sand*, *sandy loam*, *loam*, *silt loam*, *silt*, *sandy clay loam*, *clay loam*, *silty clay loam*, *sandy clay*, *silty clay*, and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till plain. An extensive area of nearly level to undulating soils underlain by glacial till.

Tilth, soil. The physical condition of the soil as related

to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms 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.

Understory. Any plants in a forest community that grow to a height of less than 5 feet.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

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.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an 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.

Tables

Table 1.--Temperature and Precipitation
 (Recorded in the period 1971-2000 at Alton Dam, Illinois)

Month	Temperature				Precipitation			
	Average daily maximum	Average daily minimum	Average	Average	30 percent chance of--		Average number of days with 0.10 inch or more	Average snowfall
					Less than--	More than--		
	°F	°F	°F	In	In	In		In
January----	35.6	19.1	27.3	2.01	1.02	2.60	4	2.2
February---	41.6	23.8	32.7	2.23	1.26	2.76	4	2.9
March-----	52.5	33.6	43.1	3.47	2.48	4.10	7	2.0
April-----	64.1	44.6	54.3	4.19	2.33	4.73	7	.4
May-----	74.6	55.0	64.8	4.24	2.63	5.10	7	.0
June-----	83.7	64.3	74.0	3.17	1.89	3.94	5	.0
July-----	88.1	68.6	78.3	3.55	2.49	4.72	5	.0
August-----	86.3	66.3	76.3	3.08	2.17	3.79	5	.0
September--	79.3	58.2	68.7	2.97	1.45	3.56	4	.0
October----	67.4	46.1	56.8	2.75	1.63	3.23	5	.0
November---	52.8	35.1	44.0	3.87	2.37	4.67	6	.3
December---	40.9	24.9	32.9	2.93	1.64	3.44	5	.7
Yearly:								
Average---	63.9	45.0	54.4	---	---	---	---	---
Extreme---	---	---	---	---	---	---	---	---
Total-----	---	---	---	38.47	32.71	42.45	64	8.5

Table 2.--Growing Season

(Recorded in the period 1971-2000 at Alton Dam, Illinois)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Beginning and ending dates (growing season length)		
50 percent*	3/18 to 11/21 (248 days)	3/26 to 11/12 (230 days)	4/6 to 10/30 (208 days)
70 percent*	3/13 to 11/26 (258 days)	3/20 to 11/18 (242 days)	4/2 to 11/3 (215 days)

* Percent chance of the growing season occurring between the beginning and ending dates.

Table 3.--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
Ambraw-----	Fine-loamy, mixed, superactive, mesic Fluvaquentic Endoaquolls
Arenzville-----	Coarse-silty, mixed, superactive, nonacid, mesic Typic Udifluvents
Atlas-----	Fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs
Aviston-----	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Beaucoup-----	Fine-silty, mixed, superactive, mesic Fluvaquentic Endoaquolls
Bethalto-----	Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs
Biddle-----	Fine, smectitic, mesic Aquic Argiudolls
Birds-----	Fine-silty, mixed, superactive, nonacid, mesic Typic Fluvaquents
Bloomfield-----	Sandy, mixed, mesic Lamellic Hapludalfs
Bold-----	Coarse-silty, mixed, superactive, calcareous, mesic Typic Udorthents
Bunkum-----	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
Burksville-----	Fine-silty, mixed, superactive, mesic Typic Epiaqualfs
Caseyville-----	Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs
Coffeen-----	Coarse-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
Colp-----	Fine, smectitic, mesic Aquertic Chromic Hapludalfs
Coulterville-----	Fine-silty, mixed, superactive, mesic Aeric Epiaqualfs
Cowden-----	Fine, smectitic, mesic Mollic Albaqualfs
Darmstadt-----	Fine-silty, mixed, superactive, mesic Albic Natraqualfs
Darwin-----	Fine, smectitic, mesic Fluvaquentic Vertic Endoaquolls
Downsouth-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Dozaville-----	Fine-silty, mixed, superactive, mesic Fluventic Hapludolls
Drury-----	Fine-silty, mixed, superactive, mesic Dystric Eutrudepts
Dupo-----	Coarse-silty over clayey, mixed over smectitic, superactive, nonacid, mesic Aquic Udifluvents
Edwardsville-----	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Elco-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Fluvaquents, clayey-----	Fluvaquents
Fosterburg-----	Fine, smectitic, mesic Vertic Argiaquolls
Fults-----	Fine, smectitic, mesic Vertic Endoaquolls
Geff-----	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
*Gosport-----	Fine, illitic, mesic Typic Hapludalfs
Grantfork-----	Fine-loamy, mixed, superactive, mesic Aeric Epiaqualfs
Haymond-----	Coarse-silty, mixed, superactive, mesic Dystric Fluventic Eutrudepts
Herrick-----	Fine, smectitic, mesic Aquic Argiudolls
Hickory-----	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Homen-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Hurst-----	Fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs
Landes-----	Coarse-loamy, mixed, superactive, mesic Fluventic Hapludolls
Lawson-----	Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls
Littleton-----	Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls
Marine-----	Fine, smectitic, mesic Aeric Albaqualfs
Mascoutah-----	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Menfro-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Nameoki-----	Fine, smectitic, mesic Aquertic Hapludolls
Navlys-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Negley-----	Fine-loamy, mixed, active, mesic Typic Paleudalfs
Newhaven-----	Fine-loamy, mixed, superactive, mesic Aquic Argiudolls
Oakville-----	Mixed, mesic Typic Udipsamments
Oconee-----	Fine, smectitic, mesic Udollic Endoaqualfs
Onarga-----	Coarse-loamy, mixed, superactive, mesic Typic Argiudolls
Orion-----	Coarse-silty, mixed, superactive, nonacid, mesic Aquic Udifluvents
Orthents, loamy-----	Fine-loamy, mixed, active, nonacid, mesic Typic Udorthents
Orthents, silty-----	Fine-silty, mixed, active, nonacid, mesic Aquic Udorthents
Piasa-----	Fine, smectitic, mesic Mollic Natraqualfs
Pierron-----	Fine, smectitic, mesic Typic Albaqualfs
Raddle-----	Fine-silty, mixed, superactive, mesic Typic Hapludolls
Ridgeville-----	Coarse-loamy, mixed, superactive, mesic Aquic Argiudolls
Ridgway-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Rocher-----	Coarse-loamy, mixed, superactive, calcareous, mesic Typic Udifluvents
Ruma-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Shaffton-----	Fine-loamy, mixed, superactive, mesic Fluvaquentic Hapludolls

Table 3.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Sylvan-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Tamalco-----	Fine, smectitic, mesic Typic Natrudalfs
Tice-----	Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
Virден-----	Fine, smectitic, mesic Vertic Argiaquolls
Wakeland-----	Coarse-silty, mixed, superactive, nonacid, mesic Aeric Fluvaquents
Wakenda-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Weir-----	Fine, smectitic, mesic Typic Endoaqualfs
Wilbur-----	Coarse-silty, mixed, superactive, mesic Fluvaquentic Eutrudepts
Winfield-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Worthen-----	Fine-silty, mixed, superactive, mesic Cumulic Hapludolls

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
8D3	Hickory clay loam, 10 to 18 percent slopes, severely eroded-----	5,423	1.1
8F	Hickory silt loam, 18 to 35 percent slopes-----	19,523	4.1
31A	Pierron silt loam, 0 to 2 percent slopes-----	3,097	0.7
35F	Bold silt loam, 18 to 35 percent slopes-----	391	*
46A	Herrick silt loam, 0 to 2 percent slopes-----	9,658	2.0
50A	Viriden silt loam, 0 to 2 percent slopes-----	4,506	1.0
79B	Menfro silt loam, 2 to 5 percent slopes-----	8,318	1.8
79C2	Menfro silt loam, 5 to 10 percent slopes, eroded-----	3,361	0.7
79C3	Menfro silty clay loam, 5 to 10 percent slopes, severely eroded-----	16	*
79D2	Menfro silt loam, 10 to 18 percent slopes, eroded-----	4,576	1.0
79D3	Menfro silty clay loam, 10 to 18 percent slopes, severely eroded-----	3,261	0.7
79F	Menfro silt loam, 18 to 35 percent slopes-----	12,762	2.7
79F3	Menfro silty clay loam, 18 to 35 percent slopes, severely eroded-----	15	*
79G	Menfro silt loam, 35 to 60 percent slopes-----	3	*
90A	Bethalto silt loam, 0 to 2 percent slopes-----	3,494	0.7
113A	Oconee silt loam, 0 to 2 percent slopes-----	6	*
113B	Oconee silt loam, 2 to 5 percent slopes-----	8,613	1.8
119C3	Elco silty clay loam, 5 to 10 percent slopes, severely eroded-----	5,352	1.1
119D2	Elco silt loam, 10 to 18 percent slopes, eroded-----	2,324	0.5
119D3	Elco silty clay loam, 10 to 18 percent slopes, severely eroded-----	4,130	0.9
165A	Weir silt loam, 0 to 2 percent slopes-----	738	0.2
267A	Caseyville silt loam, 0 to 2 percent slopes-----	5,687	1.2
267B	Caseyville silt loam, 2 to 5 percent slopes-----	5,100	1.1
283B	Downsouth silt loam, 2 to 5 percent slopes-----	3,078	0.6
283C2	Downsouth silt loam, 5 to 10 percent slopes, eroded-----	499	0.1
384A	Edwardsville silt loam, 0 to 2 percent slopes-----	7,171	1.5
385A	Mascoutah silty clay loam, 0 to 2 percent slopes-----	4,114	0.9
438B	Aviston silt loam, 2 to 5 percent slopes-----	1,546	0.3
438C2	Aviston silt loam, 5 to 10 percent slopes, eroded-----	486	0.1
441B	Wakenda silt loam, 2 to 5 percent slopes-----	644	0.1
441C2	Wakenda silt loam, 5 to 10 percent slopes, eroded-----	105	*
474A	Piassa silt loam, 0 to 2 percent slopes-----	2,839	0.6
477B	Winfield silt loam, 2 to 5 percent slopes-----	18,099	3.8
477B3	Winfield silty clay loam, 2 to 5 percent slopes, severely eroded-----	374	*
477C2	Winfield silt loam, 5 to 10 percent slopes, eroded-----	3,564	0.8
477C3	Winfield silty clay loam, 5 to 10 percent slopes, severely eroded-----	6,153	1.3
477D3	Winfield silty clay loam, 10 to 18 percent slopes, severely eroded-----	5,223	1.1
491B	Ruma silt loam, 2 to 5 percent slopes-----	3,147	0.7
491C2	Ruma silt loam, 5 to 10 percent slopes, eroded-----	2,625	0.6
491D2	Ruma silt loam, 10 to 18 percent slopes, eroded-----	1,823	0.4
491D3	Ruma silty clay loam, 10 to 18 percent slopes, severely eroded-----	407	*
515B3	Bunkum silty clay loam, 2 to 5 percent slopes, severely eroded-----	2,183	0.5
515C3	Bunkum silty clay loam, 5 to 10 percent slopes, severely eroded-----	7,721	1.6
515D3	Bunkum silty clay loam, 10 to 18 percent slopes, severely eroded-----	2,390	0.5
517A	Marine silt loam, 0 to 2 percent slopes-----	13,071	2.8
517B	Marine silt loam, 2 to 5 percent slopes-----	17,977	3.8
533	Urban land-----	5,052	1.1
536	Dumps-----	612	0.1
581B2	Tamalco silt loam, 2 to 5 percent slopes, eroded-----	1,144	0.2
582B	Homen silt loam, 2 to 5 percent slopes-----	13,280	2.8
582C2	Homen silt loam, 5 to 10 percent slopes, eroded-----	2,392	0.5
585F	Negley loam, 18 to 35 percent slopes-----	369	*
630D3	Navlys silty clay loam, 10 to 18 percent slopes, severely eroded-----	462	*
657A	Burksville silt loam, 0 to 2 percent slopes-----	4,109	0.9
701F	Menfro-Hickory silt loams, 18 to 35 percent slopes-----	5,852	1.2
702F	Ruma-Hickory silt loams, 18 to 35 percent slopes-----	2,834	0.6
703A	Pierron-Burksville silt loams, 0 to 2 percent slopes-----	3,321	0.7
801B	Orthents, silty, undulating-----	964	0.2
801D	Orthents, silty, hilly-----	1,586	0.3
802B	Orthents, loamy, undulating-----	3,042	0.6
802D	Orthents, loamy, hilly-----	2,020	0.4

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
864	Pits, quarries-----	121	*
865	Pits, gravel-----	52	*
867	Oil waste land-----	228	*
878C3	Coulterville-Grantfork silty clay loams, 5 to 10 percent slopes, severely eroded-----	4,238	0.9
880B2	Coulterville-Darmstadt silt loams, 2 to 5 percent slopes, eroded-----	4,515	1.0
882B	Ocoonee-Coulterville-Darmstadt silt loams, 2 to 5 percent slopes-----	9,511	2.0
885A	Viriden-Fosterburg silt loams, 0 to 2 percent slopes-----	23,199	4.9
894A	Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes-----	13,949	2.9
897D3	Bunkum-Atlas silty clay loams, 10 to 18 percent slopes, severely eroded-----	876	0.2
914C3	Atlas-Grantfork silty clay loams, 5 to 10 percent slopes, severely eroded-----	2,214	0.5
914D3	Atlas-Grantfork silty clay loams, 10 to 18 percent slopes, severely eroded-----	1,141	0.2
962D2	Sylvan-Bold silt loams, 10 to 18 percent slopes, eroded-----	1,955	0.4
962F2	Sylvan-Bold silt loams, 18 to 35 percent slopes, eroded-----	4,130	0.9
967F	Hickory-Gosport silt loams, 18 to 35 percent slopes-----	582	0.1
993A	Cowden-Piasa silt loams, 0 to 2 percent slopes-----	15,467	3.3
1070L	Beaucoup silty clay loam, undrained, 0 to 2 percent slopes, occasionally flooded, long duration-----	2,520	0.5
2071L	Darwin-Aquents-Urban land complex, 0 to 2 percent slopes, occasionally flooded, long duration-----	814	0.2
2079D	Menfro-Orthents-Urban land complex, 8 to 15 percent slopes-----	1,545	0.3
2113B	Ocoonee-Orthents-Urban land complex, 2 to 5 percent slopes-----	456	*
2122B	Colp-Orthents-Urban land complex, 2 to 5 percent slopes, rarely flooded-----	382	*
2183A	Shaffton-Fluvents-Urban land complex, 0 to 2 percent slopes, occasionally flooded-----	1,714	0.4
2284A	Tice-Fluvents-Urban land complex, 0 to 2 percent slopes, occasionally flooded-----	823	0.2
2304B	Landes-Fluvents-Urban land complex, 2 to 5 percent slopes, occasionally flooded-----	1,474	0.3
2384B	Edwardsville-Orthents-Urban land complex, 1 to 4 percent slopes-----	500	0.1
2477B	Winfield-Orthents-Urban land complex, 2 to 8 percent slopes-----	8,063	1.7
2592A	Nameoki-Fluvents-Urban land complex, 0 to 2 percent slopes, occasionally flooded-----	1,281	0.3
2741B	Oakville-Psamments-Urban land complex, 2 to 5 percent slopes, rarely flooded-----	1,545	0.3
3038B	Rocher loam, 2 to 5 percent slopes, frequently flooded-----	1,367	0.3
3070A	Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded-----	2,744	0.6
3070L	Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration-----	1,233	0.3
3071L	Darwin silty clay, 0 to 2 percent slopes, frequently flooded, long duration-----	1,087	0.2
3333A	Wakeland silt loam, 0 to 2 percent slopes, frequently flooded-----	15,895	3.4
3334A	Birds silt loam, 0 to 2 percent slopes, frequently flooded-----	12,738	2.7
3336A	Wilbur silt loam, 0 to 2 percent slopes, frequently flooded-----	1,221	0.3
3415A	Orion silt loam, 0 to 2 percent slopes, frequently flooded-----	7,523	1.6
3428A	Coffeen silt loam, 0 to 2 percent slopes, frequently flooded-----	2,630	0.6
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded-----	3,454	0.7
3592A	Nameoki silty clay loam, 0 to 2 percent slopes, frequently flooded-----	1,896	0.4
7037A	Worthen silt loam, 0 to 2 percent slopes, rarely flooded-----	1,099	0.2
7037B	Worthen silt loam, 2 to 5 percent slopes, rarely flooded-----	343	*
7053B	Bloomfield loamy fine sand, 2 to 5 percent slopes, rarely flooded-----	643	0.1
7075B	Drury silt loam, 2 to 5 percent slopes, rarely flooded-----	628	0.1
7081A	Littleton silt loam, 0 to 2 percent slopes, rarely flooded-----	388	*
7122B	Colp silt loam, 2 to 5 percent slopes, rarely flooded-----	282	*
7122C	Colp silty clay loam, 5 to 10 percent slopes, severely eroded, rarely flooded-----	194	*
7150A	Onarga sandy loam, 0 to 2 percent slopes, rarely flooded-----	551	0.1
7151A	Ridgeville fine sandy loam, 0 to 2 percent slopes, rarely flooded-----	266	*
7338A	Hurst silty clay loam, 0 to 2 percent slopes, rarely flooded-----	176	*
7430A	Raddle silt loam, 0 to 2 percent slopes, rarely flooded-----	677	0.1
7432A	Geff silt loam, 0 to 2 percent slopes, rarely flooded-----	546	0.1
7434B	Ridgway silt loam, 2 to 5 percent slopes, rarely flooded-----	370	*
7445A	Newhaven loam, 0 to 2 percent slopes, rarely flooded-----	279	*
7741B	Oakville fine sand, 2 to 5 percent slopes, rarely flooded-----	418	*
7741C	Oakville fine sand, 5 to 10 percent slopes, rarely flooded-----	217	*
8038B	Rocher loam, 2 to 5 percent slopes, occasionally flooded-----	501	0.1
8070A	Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded-----	2,148	0.5
8071L	Darwin silty clay, 0 to 2 percent slopes, occasionally flooded, long duration-----	11,214	2.4
8078A	Arenzville silt loam, 0 to 2 percent slopes, occasionally flooded-----	375	*
8180A	Dupo silt loam, 0 to 2 percent slopes, occasionally flooded-----	799	0.2
8183A	Shaffton clay loam, 0 to 2 percent slopes, occasionally flooded-----	2,152	0.5

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
8284A	Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded-----	3,599	0.8
8302A	Ambraw silty clay loam, 0 to 2 percent slopes, occasionally flooded-----	603	0.1
8304B	Landes very fine sandy loam, 2 to 5 percent slopes, occasionally flooded-----	4,123	0.9
8331A	Haymond silt loam, 0 to 2 percent slopes, occasionally flooded-----	668	0.1
8333A	Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded-----	504	0.1
8334A	Birds silt loam, 0 to 2 percent slopes, occasionally flooded-----	879	0.2
8415A	Orion silt loam, 0 to 2 percent slopes, occasionally flooded-----	168	*
8591A	Fults silty clay, 0 to 2 percent slopes, occasionally flooded-----	2,016	0.4
8592A	Nameoki silty clay, 0 to 2 percent slopes, occasionally flooded-----	2,743	0.6
8674A	Dozaville silt loam, 0 to 2 percent slopes, occasionally flooded-----	1,112	0.2
8831A	Fluvaquents, clayey, 0 to 2 percent slopes, occasionally flooded-----	1,256	0.3
M-W	Miscellaneous water-----	425	*
W	Water-----	13,663	2.9
	Total-----	473,740	100.0

* Less than 0.1 percent.

Table 5.--Limitations Affecting Cropland and Pastureland

(See text for a description of the limitations and hazards listed in this table. Miscellaneous areas and map units that are generally not available for production of crops or pasture are not listed. Absence of an entry indicates that the map unit 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
8D3: Hickory-----	Poor tilth, crusting, water erosion.	Poor tilth, low pH, water erosion, low fertility.
8F: Hickory-----	---	Equipment limitation, low pH, water erosion.
31A: Pierron-----	Ponding, low pH, crusting, restricted permeability.	Ponding, low pH, frost heave.
35F: Bold-----	---	Equipment limitation, high pH, water erosion, excess lime.
46A: Herrick-----	Wetness, restricted permeability.	Wetness, low pH.
50A: Virden-----	Ponding, restricted permeability.	Ponding, frost heave.
79B: Menfro-----	Crusting, water erosion	Low pH, water erosion.
79C2: Menfro-----	Crusting, water erosion	Low pH, water erosion.
79C3: Menfro-----	Poor tilth, crusting, water erosion.	Poor tilth, low pH, water erosion, low fertility.
79D2: Menfro-----	Crusting, water erosion	Low pH, water erosion.
79D3: Menfro-----	Poor tilth, crusting, water erosion.	Poor tilth, low pH, water erosion, low fertility.
79F: Menfro-----	---	Equipment limitation, low pH, water erosion.
79F3, 79G. Menfro		
90A: Bethalto-----	Wetness	Wetness, low pH.
113A: Oconee-----	Wetness, crusting, restricted permeability.	Wetness, low pH.

Table 5.--Limitations Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
113B: Oconee-----	Wetness, crusting, water erosion, restricted permeability.	Wetness, low pH, water erosion.
119C3: Elco-----	Poor tilth, crusting, water erosion, restricted permeability.	Poor tilth, low pH, water erosion, low fertility.
119D2: Elco-----	Crusting, water erosion, restricted permeability.	Low pH, water erosion.
119D3: Elco-----	Poor tilth, crusting, water erosion, restricted permeability.	Poor tilth, low pH, water erosion, low fertility.
165A: Weir-----	Wetness, crusting, restricted permeability.	Wetness, low pH, frost heave.
267A: Caseyville-----	Wetness, crusting	Wetness, low pH.
267B: Caseyville-----	Wetness, crusting, water erosion.	Wetness, low pH, water erosion.
283B: Downsouth-----	Water erosion	Low pH, water erosion.
283C2: Downsouth-----	Crusting, water erosion	Low pH, water erosion.
384A: Edwardsville-----	Wetness	Wetness, low pH.
385A: Mascoutah-----	Ponding	Ponding, frost heave.
438B: Aviston-----	Water erosion	Low pH, water erosion.
438C2: Aviston-----	Water erosion	Low pH, water erosion.
441B: Wakenda-----	Water erosion	Water erosion.
441C2: Wakenda-----	Water erosion	Water erosion.
474A: Piasa-----	Ponding, high pH, excess sodium, restricted permeability.	Ponding, high pH, excess sodium, frost heave.
477B: Winfield-----	Crusting, water erosion	Low pH, water erosion.

Table 5.--Limitations Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
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.
477D3: Winfield-----	Poor tilth, crusting, water erosion.	Poor tilth, low pH, water erosion, low fertility.
491B: Ruma-----	Crusting, water erosion	Low pH, water erosion.
491C2: Ruma-----	Crusting, water erosion	Low pH, water erosion.
491D2: Ruma-----	Crusting, water erosion	Low pH, water erosion.
491D3: Ruma-----	Poor tilth, crusting, water erosion.	Poor tilth, low pH, water erosion, low fertility.
515B3: Bunkum-----	Wetness, poor tilth, crusting, water erosion, restricted permeability.	Wetness, poor tilth, low pH, water erosion, low fertility.
515C3: Bunkum-----	Wetness, poor tilth, crusting, water erosion, restricted permeability.	Wetness, poor tilth, low pH, water erosion, low fertility.
515D3: Bunkum-----	Wetness, poor tilth, crusting, water erosion, restricted permeability.	Wetness, poor tilth, low pH, water erosion, low fertility.
517A: Marine-----	Wetness, restricted permeability.	Wetness, low pH.
517B: Marine-----	Wetness, water erosion, restricted permeability.	Wetness, low pH, water erosion.
581B2: Tamalco-----	High pH, crusting, water erosion, excess sodium, restricted permeability.	Low pH, high pH, water erosion, excess sodium.
582B: Homen-----	Crusting, water erosion, restricted permeability.	Low pH, water erosion.

Table 5.--Limitations Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
582C2: Homen-----	Crusting, water erosion, restricted permeability.	Low pH, water erosion.
585F: Negley-----	---	Equipment limitation, low pH, water erosion.
630D3: Navlys-----	Poor tilth, high pH, crusting, water erosion.	Poor tilth, high pH, water erosion, low fertility.
657A: Burksville-----	Ponding, high pH, crusting, excess sodium, restricted permeability.	Ponding, high pH, excess sodium, frost heave.
701F: Menfro-----	---	Equipment limitation, low pH, water erosion.
Hickory-----	---	Equipment limitation, low pH, water erosion.
702F: Ruma-----	---	Equipment limitation, low pH, water erosion.
Hickory-----	---	Equipment limitation, low pH, water erosion.
703A: Pierron-----	Ponding, low pH, crusting, restricted permeability.	Ponding, low pH, frost heave.
Burksville-----	Ponding, high pH, crusting, excess sodium, restricted permeability.	Ponding, high pH, excess sodium, frost heave.
878C3: Coulterville-----	Wetness, poor tilth, high pH, crusting, water erosion, excess sodium, restricted permeability.	Wetness, poor tilth, low pH, high pH, water erosion, excess sodium, low fertility.
Grantfork-----	Wetness, poor tilth, high pH, crusting, water erosion, excess sodium, restricted permeability.	Wetness, poor tilth, low pH, high pH, water erosion, excess sodium, low fertility.
880B2: Coulterville-----	Wetness, high pH, crusting, water erosion, excess sodium, restricted permeability.	Wetness, low pH, high pH, water erosion, excess sodium.
Darmstadt-----	Wetness, high pH, excess lime, crusting, water erosion, excess sodium, restricted permeability.	Wetness, low pH, high pH, water erosion, excess sodium, excess lime.

Table 5.--Limitations Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
882B:		
Ocoee-----	Wetness, crusting, water erosion, restricted permeability.	Wetness, low pH, water erosion.
Coulterville-----	Wetness, high pH, crusting, water erosion, excess sodium, restricted permeability.	Wetness, low pH, high pH, water erosion, excess sodium.
Darmstadt-----	Wetness, high pH, excess lime, crusting, water erosion, excess sodium, restricted permeability.	Wetness, low pH, high pH, water erosion, excess sodium, excess lime.
885A:		
Viriden-----	Ponding, restricted permeability.	Ponding, frost heave.
Fosterburg-----	Ponding, high pH, excess sodium, restricted permeability.	Ponding, high pH, excess sodium, frost heave.
894A:		
Herrick-----	Wetness, restricted permeability.	Wetness, low pH.
Biddle-----	Wetness, high pH, excess sodium, restricted permeability.	Wetness, high pH, excess sodium.
Piasa-----	Ponding, high pH, excess sodium, restricted permeability.	Ponding, high pH, excess sodium, frost heave.
897D3:		
Bunkum-----	---	Wetness, poor tilth, low pH, water erosion, low fertility.
Atlas-----	---	Wetness, poor tilth, low pH, water erosion, low fertility.
914C3:		
Atlas-----	Wetness, poor tilth, water erosion, restricted permeability.	Wetness, poor tilth, low pH, water erosion, low fertility.
Grantfork-----	Wetness, poor tilth, high pH, crusting, water erosion, excess sodium, restricted permeability.	Wetness, poor tilth, low pH, high pH, water erosion, excess sodium, low fertility.
914D3:		
Atlas-----	Wetness, poor tilth, water erosion, restricted permeability.	Wetness, poor tilth, low pH, water erosion, low fertility.
Grantfork-----	Wetness, poor tilth, high pH, crusting, water erosion, excess sodium, restricted permeability.	Wetness, poor tilth, low pH, high pH, water erosion, excess sodium, low fertility.

Table 5.--Limitations Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
962D2: Sylvan-----	High pH, crusting, water erosion.	High pH, water erosion.
Bold-----	High pH, excess lime, water erosion.	High pH, water erosion, excess lime.
962F2: Sylvan-----	---	Equipment limitation, high pH, water erosion.
Bold-----	---	Equipment limitation, high pH, water erosion, excess lime.
967F: Hickory-----	---	Equipment limitation, low pH, water erosion.
Gosport.		
993A: Cowden-----	Ponding, crusting, restricted permeability.	Ponding, low pH, frost heave.
Piasa-----	Ponding, high pH, excess sodium, restricted permeability.	Ponding, high pH, excess sodium, frost heave.
1070L: Beaucoup, undrained-----	---	Flooding, ponding, frost heave.
3038B: Rocher-----	Flooding, high pH, excess lime, water erosion.	Flooding, high pH, water erosion, low fertility, excess lime.
3070A: Beaucoup-----	Flooding, ponding, restricted permeability.	Flooding, ponding, frost heave.
3070L: Beaucoup-----	Flooding, ponding	Flooding, ponding, frost heave.
3071L: Darwin-----	Flooding, ponding, poor tilth, restricted permeability.	Flooding, ponding, frost heave.
3333A: Wakeland-----	Flooding, wetness	Flooding, wetness.
3334A: Birds-----	Flooding, ponding, crusting, restricted permeability.	Flooding, ponding, low pH, frost heave.
3336A: Wilbur-----	Flooding, wetness	Flooding, wetness.
3415A: Orion-----	Flooding, wetness	Flooding, wetness.

Table 5.--Limitations Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
3428A: Coffeen-----	Flooding, wetness	Flooding, wetness.
3451A: Lawson-----	Flooding, wetness	Flooding, wetness.
3592A: Nameoki-----	Flooding, wetness, poor tilth, restricted permeability.	Flooding, wetness.
7037A: Worthen-----	Few limitations (well suited)	Few limitations (well suited).
7037B: Worthen-----	Water erosion	Water erosion.
7053B: Bloomfield-----	Wind erosion, excessive permeability.	Low pH, wind erosion, excessive permeability.
7075B: Drury-----	High pH, crusting, water erosion.	High pH, water erosion.
7081A: Littleton-----	Wetness	Wetness.
7122B: Colp-----	Wetness, crusting, water erosion, restricted permeability.	Wetness, low pH, water erosion.
7122C: Colp-----	Wetness, poor tilth, crusting, water erosion, restricted permeability.	Wetness, poor tilth, low pH, water erosion, low fertility.
7150A: Onarga-----	Excessive permeability	Low pH, excessive permeability.
7151A: Ridgeville-----	Wetness	Wetness.
7338A: Hurst-----	Wetness, low pH, crusting, restricted permeability.	Wetness, low pH.
7430A: Raddle-----	Few limitations (well suited)	Few limitations (well suited).
7432A: Geff-----	Wetness, crusting, excessive permeability.	Wetness, low pH, excessive permeability.
7434B: Ridgway-----	Crusting, water erosion, excessive permeability.	Low pH, water erosion, excessive permeability.
7445A: Newhaven-----	Wetness	Wetness, low pH.

Table 5.--Limitations Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
7741B: Oakville-----	Wind erosion, limited available water capacity, excessive permeability.	Low pH, wind erosion, limited available water capacity, low fertility, excessive permeability.
7741C: Oakville-----	---	Low pH, wind erosion, limited available water capacity, low fertility, excessive permeability.
8038B: Rocher-----	Flooding, high pH, excess lime, water erosion.	Flooding, high pH, water erosion, low fertility, excess lime.
8070A: Beaucoup-----	Flooding, ponding	Flooding, ponding, frost heave.
8071L: Darwin-----	Flooding, ponding, poor tilth, restricted permeability.	Flooding, ponding, frost heave.
8078A: Arenzville-----	Flooding	Flooding.
8180A: Dupo-----	Flooding, wetness, restricted permeability.	Flooding, wetness.
8183A: Shaffton-----	Flooding, wetness, poor tilth, excessive permeability.	Flooding, wetness, poor tilth, low pH, excessive permeability.
8284A: Tice-----	Flooding, wetness, poor tilth.	Flooding, wetness, poor tilth, low pH.
8302A: Ambraw-----	Flooding, ponding, poor tilth, high pH, restricted permeability.	Flooding, ponding, low pH, high pH, frost heave.
8304B: Landes-----	Flooding, very high pH, water erosion, excessive permeability.	Flooding, very high pH, excessive permeability.
8331A: Haymond-----	Flooding	Flooding.
8333A: Wakeland-----	Flooding, wetness	Flooding, wetness.
8334A: Birds-----	Flooding, ponding, crusting, restricted permeability.	Flooding, ponding, low pH, frost heave.
8415A: Orion-----	Flooding, wetness	Flooding, wetness.

Table 5.--Limitations Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
8591A: Fults-----	Flooding, ponding, poor tilth, poor tilth, restricted permeability.	Flooding, ponding, frost heave.
8592A: Nameoki-----	Flooding, wetness, poor tilth, poor tilth, restricted permeability.	Flooding, wetness.
8674A: Dozaville-----	Flooding	Flooding.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
8D3----- Hickory	4e	65	21	23	2.4	4.0
8F----- Hickory	6e	---	---	---	2.2	3.6
31A----- Pierron	3w	100	30	42	3.7	6.2
35F----- Bold	6e	---	---	---	2.4	4.0
46A----- Herrick	2w	141	45	61	5.5	9.2
50A----- Virden	2w	144	46	60	---	---
79B----- Menfro	2e	127	39	53	5.1	8.6
79C2----- Menfro	3e	120	37	51	4.9	8.1
79C3----- Menfro	4e	111	34	47	4.5	7.6
79D2----- Menfro	4e	113	34	48	4.6	7.7
79D3----- Menfro	4e	104	32	44	4.2	7.0
79F----- Menfro	6e	---	---	---	3.7	6.3
79F3----- Menfro	7e	---	---	---	3.2	5.3
79G----- Menfro	7e	---	---	---	---	---
90A----- Bethalto	2w	149	44	60	5.6	9.3
113A----- Oconee	2w	120	36	54	5.0	8.3
113B----- Oconee	2e	119	36	53	4.9	8.2
119C3----- Elco	4e	97	32	41	3.8	6.4

See footnote at end of table.

Table 6.--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*
119D2----- Elco	3e	99	33	41	3.9	6.4
119D3----- Elco	4e	91	30	38	3.6	5.9
165A----- Weir	3w	103	34	45	3.9	6.5
267A----- Caseyville	2w	134	41	54	5.2	8.7
267B----- Caseyville	2e	133	41	53	5.1	8.6
283B----- Downsouth	2e	146	43	57	5.4	9.1
283C2----- Downsouth	3e	138	40	55	5.2	8.6
384A----- Edwardsville	1	163	48	62	6.1	10.2
385A----- Mascoutah	2w	152	48	57	---	---
438B----- Aviston	2e	143	45	60	5.4	9.1
438C2----- Aviston	3e	135	42	57	5.2	8.6
441B----- Wakenda	2e	148	45	57	4.9	8.2
441C2----- Wakenda	3e	140	42	55	4.7	7.8
474A----- Piasa	3w	77	28	37	---	---
477B----- Winfield	2e	127	40	52	4.9	8.1
477B3----- Winfield	3e	114	35	47	4.5	7.6
477C2----- Winfield	3e	120	38	50	4.6	7.7
477C3----- Winfield	4e	111	35	46	4.3	7.1
477D3----- Winfield	4e	106	33	43	4.0	6.5
491B----- Ruma	2e	121	35	52	5.0	8.2

See footnote at end of table.

Table 6.--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*
491C2----- Ruma	3e	115	33	50	4.7	7.8
491D2----- Ruma	3e	107	31	47	4.4	7.3
491D3----- Ruma	4e	99	28	43	4.0	6.7
515B3----- Bunkum	3e	88	33	42	3.4	5.6
515C3----- Bunkum	4e	86	32	41	3.3	5.5
515D3----- Bunkum	4e	80	30	38	3.1	5.1
517A----- Marine	2w	102	30	43	3.6	7.2
517B----- Marine	2e	101	30	43	3.6	7.1
533. Urban land						
536. Dumps						
581B2----- Tamalco	3e	66	23	32	2.7	4.5
582B----- Homen	2e	101	34	48	4.1	6.8
582C2----- Homen	3e	96	32	45	3.8	6.4
585F----- Negley	6e	---	---	---	2.5	4.2
630D3----- Navlys	4e	91	28	43	4.0	6.7
657A----- Burksville	3w	95	30	40	3.2	5.0
701F----- Menfro-Hickory	6e	---	---	---	3.0	5.0
702F----- Ruma-Hickory	6e	---	---	---	2.9	4.8
703A----- Pierron-Burksville	3w	98	30	41	3.4	5.6
801B, 801D. Orthents, silty						

See footnote at end of table.

Table 6.--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*
802B, 802D. Orthents, loamy						
864, 865. Pits						
867. Oil waste land						
878C3----- Coulterville- Grantfork	4e	72	24	32	2.6	4.6
880B2----- Coulterville----- Darmstadt-----	2e 3e	87	30	39	3.2	5.3
882B----- Oconee----- Coulterville----- Darmstadt-----	2e 2e 3e	104	33	47	4.1	7.1
885A----- Viriden----- Fosterburg-----	2w 3w	136	42	58	---	---
894A----- Herrick----- Biddle----- Piasa-----	2w 2w 3w	121	39	54	4.8	8.0
897D3----- Bunkum-Atlas	6e	62	22	27	2.4	4.0
914C3----- Atlas----- Grantfork-----	4e 6e	45	15	19	1.8	3.0
914D3----- Atlas-Grantfork	6e	40	13	17	1.7	2.8
962D2----- Sylvan-Bold	4e	82	25	39	3.7	6.0
962F2----- Sylvan-Bold	6e	---	---	---	2.9	5.0
967F----- Hickory----- Gosport-----	6e 7e	---	---	---	2.0	3.3
993A----- Cowden-Piasa	3w	98	32	45	---	---
1070L----- Beaucoup, undrained	5w	---	---	---	---	---

See footnote at end of table.

Table 6.--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*
2071L. Darwin-Aquents-Urban land						
2079D. Menfro-Orthents- Urban land						
2113B. Oconee-Orthents- Urban land						
2122B. Colp-Orthents-Urban land						
2183A. Shaffton-Fluents- Urban land						
2284A. Tice-Fluents-Urban land						
2304B. Landes-Fluents- Urban land						
2384B. Edwardsville- Orthents-Urban land						
2477B. Winfield-Orthents- Urban land						
2592A. Nameoki-Fluents- Urban land						
2741B. Oakville-Psamments- Urban land						
3038B----- Rocher	3w	89	31	40	---	---
3070A----- Beaucoup	3w	124	41	50	---	---
3070L----- Beaucoup	4w	97	32	---	---	---
3071L----- Darwin	4w	69	25	---	---	---
3333A----- Wakeland	3w	122	40	51	4.7	7.8

See footnote at end of table.

Table 6.--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*
3334A----- Birds	4w	110	38	47	---	---
3336A----- Wilbur	3w	121	40	50	4.5	7.5
3415A----- Orion	3w	122	39	47	4.2	7.0
3428A----- Coffeen	3w	137	42	51	5.2	8.7
3451A----- Lawson	3w	145	43	56	5.1	8.6
3592A----- Nameoki	3w	112	40	45	4.5	7.4
7037A----- Worthen	1	151	46	62	5.9	9.8
7037B----- Worthen	2e	149	46	61	5.8	9.7
7053B----- Bloomfield	3s	78	31	41	3.2	5.2
7075B----- Drury	2e	125	40	56	4.9	8.2
7081A----- Littleton	1	159	50	63	6.1	10.2
7122B----- Colp	2e	85	32	43	3.6	5.9
7122C----- Colp	4e	65	24	33	2.7	4.6
7150A----- Onarga	2s	110	36	48	4.2	7.0
7151A----- Ridgeville	2s	115	40	53	4.6	7.7
7338A----- Hurst	2w	87	32	45	3.6	6.0
7430A----- Raddle	1	149	45	59	5.8	9.7
7432A----- Geff	2w	105	35	44	4.5	7.5
7434B----- Ridgway	2e	118	38	49	4.6	7.6
7445A----- Newhaven	1	130	43	55	5.2	8.6

See footnote at end of table.

Table 6.--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*
7741B----- Oakville	4s	61	23	32	2.9	4.8
7741C----- Oakville	6s	60	22	31	2.8	4.6
8038B----- Rocher	2e	98	34	45	3.6	6.6
8070A----- Beaucoup	2w	138	46	55	---	---
8071L----- Darwin	4w	84	30	40	---	---
8078A----- Arenzville	2w	138	42	56	5.4	9.0
8180A----- Dupo	2w	132	43	55	5.2	8.7
8183A----- Shaffton	2w	130	43	52	5.0	8.3
8284A----- Tice	2w	153	47	61	5.7	9.5
8302A----- Ambraw	3w	132	43	52	---	---
8304B----- Landes	2e	98	34	45	3.7	6.1
8331A----- Haymond	2w	140	45	60	5.3	8.9
8333A----- Wakeland	2w	135	45	57	5.2	8.7
8334A----- Birds	3w	122	42	52	---	---
8415A----- Orion	2w	135	43	52	4.7	7.8
8591A----- Fults	3w	110	39	45	---	---
8592A----- Nameoki	2w	125	44	50	5.0	8.2
8674A----- Dozaville	2w	149	45	59	5.8	9.7
8831A. Fluvaquents, clayey						

See footnote at end of table.

Table 6.--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*
M-W. Miscellaneous water						

* Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Table 7.--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
46A	Herrick silt loam, 0 to 2 percent slopes
50A	Viriden silt loam, 0 to 2 percent slopes (where drained)
79B	Menfro silt loam, 2 to 5 percent slopes
90A	Bethalto 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
267A	Caseyville silt loam, 0 to 2 percent slopes (where drained)
267B	Caseyville silt loam, 2 to 5 percent slopes
283B	Downsouth silt loam, 2 to 5 percent slopes
384A	Edwardsville silt loam, 0 to 2 percent slopes
385A	Mascoutah silty clay loam, 0 to 2 percent slopes (where drained)
438B	Aviston silt loam, 2 to 5 percent slopes
441B	Wakenda silt loam, 2 to 5 percent slopes
477B	Winfield silt loam, 2 to 5 percent slopes
491B	Ruma silt loam, 2 to 5 percent slopes
517A	Marine silt loam, 0 to 2 percent slopes (where drained)
517B	Marine silt loam, 2 to 5 percent slopes
582B	Homen silt loam, 2 to 5 percent slopes
657A	Burksville silt loam, 0 to 2 percent slopes (where drained)
885A	Viriden-Fosterburg silt loams, 0 to 2 percent slopes (where drained)
3038B	Rocher loam, 2 to 5 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
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)
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)
3334A	Birds 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)
3415A	Orion silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3428A	Coffeen 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)
7037A	Worthen silt loam, 0 to 2 percent slopes, rarely flooded
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
7122B	Colp silt loam, 2 to 5 percent slopes, rarely flooded
7150A	Onarga sandy loam, 0 to 2 percent slopes, rarely flooded
7151A	Ridgeville fine sandy loam, 0 to 2 percent slopes, rarely flooded
7430A	Raddle silt loam, 0 to 2 percent slopes, rarely flooded
7432A	Geff silt loam, 0 to 2 percent slopes, rarely flooded
7434B	Ridgway silt loam, 2 to 5 percent slopes, rarely flooded
7445A	Newhaven loam, 0 to 2 percent slopes, rarely flooded (where drained)
8038B	Rocher loam, 2 to 5 percent slopes, occasionally flooded
8070A	Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded (where drained)
8078A	Arenzville silt loam, 0 to 2 percent slopes, occasionally flooded
8180A	Dupo silt loam, 0 to 2 percent slopes, occasionally flooded
8183A	Shaffton clay loam, 0 to 2 percent slopes, occasionally flooded
8284A	Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded
8302A	Ambraw silty clay loam, 0 to 2 percent slopes, occasionally flooded (where drained)
8304B	Landes very fine sandy loam, 2 to 5 percent slopes, occasionally flooded
8331A	Haymond silt loam, 0 to 2 percent slopes, occasionally flooded
8333A	Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded (where drained)

Table 7.--Prime Farmland--Continued

Map symbol	Soil name
8334A	Birds silt loam, 0 to 2 percent slopes, occasionally flooded (where drained)
8415A	Orion silt loam, 0 to 2 percent slopes, occasionally flooded
8674A	Dozaville silt loam, 0 to 2 percent slopes, occasionally flooded

Table 8.--Forestland Productivity

(Only the soils suitable for production of commercial trees are listed)

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
8D3:				
Hickory-----	Bitternut hickory-----	---	---	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak-----	---	---	
	Green ash-----	---	---	
	Northern red oak-----	85	72	
	Tuliptree-----	95	100	
	White oak-----	85	72	
8F:				
Hickory-----	Bitternut hickory-----	---	---	Eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak-----	---	---	
	Green ash-----	---	---	
	Northern red oak-----	85	72	
	Tuliptree-----	95	100	
	White oak-----	85	72	
31A:				
Pierron-----	---	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
46A:				
Herrick-----	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
79B:				
Menfro-----	Black oak-----	73	57	Black walnut, eastern white pine, green ash, shortleaf pine, sugar maple, tuliptree, white oak.
	Northern red oak-----	81	57	
	Sugar maple-----	68	72	
	White ash-----	70	72	
	White oak-----	59	43	
79C2:				
Menfro-----	Black oak-----	73	57	Black walnut, eastern white pine, green ash, shortleaf pine, sugar maple, tuliptree, white oak.
	Northern red oak-----	81	57	
	Sugar maple-----	68	72	
	White ash-----	70	72	
	White oak-----	59	43	
79C3:				
Menfro-----	Black oak-----	73	57	Black walnut, eastern white pine, green ash, shortleaf pine, sugar maple, tuliptree, white oak.
	Northern red oak-----	81	57	
	Sugar maple-----	68	72	
	White ash-----	70	72	
	White oak-----	59	43	
79D2:				
Menfro-----	Black oak-----	73	57	Black walnut, eastern white pine, green ash, shortleaf pine, sugar maple, tuliptree, white oak.
	Northern red oak-----	81	57	
	Sugar maple-----	68	72	
	White ash-----	70	72	
	White oak-----	59	43	

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
79D3: Menfro-----	Black oak-----	73	57	Black walnut, eastern white pine, green ash, shortleaf pine, sugar maple, tuliptree, white oak.
	Northern red oak-----	81	57	
	Sugar maple-----	68	72	
	White ash-----	70	72	
	White oak-----	59	43	
79F: Menfro-----	Black oak-----	73	57	Black walnut, eastern white pine, green ash, shortleaf pine, sugar maple, tuliptree, white oak.
	Northern red oak-----	81	57	
	Sugar maple-----	68	72	
	White ash-----	70	72	
	White oak-----	59	43	
79F3: Menfro-----	Black oak-----	73	57	Black walnut, eastern white pine, green ash, shortleaf pine, sugar maple, tuliptree, white oak.
	Northern red oak-----	81	57	
	Sugar maple-----	68	72	
	White ash-----	70	72	
	White oak-----	59	43	
79G: Menfro-----	Black oak-----	73	57	Black walnut, eastern white pine, green ash, shortleaf pine, sugar maple, tuliptree, white oak.
	Northern red oak-----	81	57	
	Sugar maple-----	68	72	
	White ash-----	70	72	
	White oak-----	59	43	
90A: Bethalto-----	Green ash-----	---	---	Eastern white pine, green ash, northern red oak, shortleaf pine.
	Northern red oak-----	---	---	
	White oak-----	70	57	
113A: Oconee-----	---	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
113B: Oconee-----	---	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
119C3: Elco-----	Black walnut-----	---	---	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak-----	---	---	
	White oak-----	80	57	
119D2: Elco-----	Northern red oak-----	85	72	White oak, northern red oak, pecan, black walnut, green ash, baldcypress.
	White oak-----	85	72	
	Black walnut-----	---	---	
119D3: Elco-----	Black walnut-----	---	---	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak-----	---	---	
	White oak-----	80	57	

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
165A: Weir-----	Pin oak----- Black oak----- White oak----- Pignut hickory-----	70 --- --- ---	57 --- --- ---	Baldcypress, bur oak, common hackberry, green ash, pin oak, swamp white oak.
267A: Caseyville-----	White oak-----	75	57	Eastern white pine, green ash, northern red oak, tuliptree, white oak.
267B: Caseyville-----	White oak-----	75	57	Eastern white pine, green ash, northern red oak, tuliptree, white oak.
283B: Downsouth-----	Northern red oak----- White oak-----	--- 70	--- 57	Eastern white pine, green ash, white oak.
283C2: Downsouth-----	Northern red oak----- White oak-----	--- 70	--- 57	Eastern white pine, green ash, white oak.
384A: Edwardsville-----	---	---	---	Shumard's oak, bitternut hickory, blackgum, bur oak, eastern white pine, green ash, northern red oak, swamp white oak, tuliptree, white ash, white oak.
474A: Piasa-----	---	---	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine, green ash.
477B: Winfield-----	Black oak----- Northern red oak----- White oak-----	65 60 65	43 43 43	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
477B3: Winfield-----	White oak----- Black oak----- Northern red oak-----	65 65 60	43 43 43	Black walnut, eastern white pine, green ash, northern red oak, white oak.
477C2: Winfield-----	Black oak----- Northern red oak----- White oak-----	65 60 65	43 43 43	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
477C3: Winfield-----	Black oak----- Northern red oak----- White oak-----	65 60 65	43 43 43	Black oak, eastern white pine, green ash, northern red oak, tuliptree.

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
477D3: Winfield-----	White oak-----	65	43	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak-----	65	43	
	Northern red oak-----	60	43	
491B: Ruma-----	White oak-----	75	57	Black walnut, eastern white pine, green ash, sugar maple, tuliptree, white oak.
491C2: Ruma-----	White oak-----	75	57	Black walnut, eastern white pine, green ash, sugar maple, tuliptree, white oak.
491D2: Ruma-----	White oak-----	75	57	Black walnut, eastern white pine, green ash, sugar maple, tuliptree, white oak.
491D3: Ruma-----	White oak-----	75	57	Black walnut, eastern white pine, green ash, shortleaf pine, sugar maple, tuliptree, white oak.
515B3: Bunkum-----	White oak-----	75	57	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
515C3: Bunkum-----	White oak-----	75	57	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
515D3: Bunkum-----	White oak-----	75	57	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
517A: Marine-----	Northern red oak-----	70	57	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Post oak-----	70	57	
	Shagbark hickory-----	---	---	
517B: Marine-----	Northern red oak-----	70	57	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Post oak-----	70	57	
	Shagbark hickory-----	---	---	

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
581B2: Tamalco-----	Black oak-----	70	57	Black oak, eastern redcedar, eastern white pine, green ash, white oak.
	White oak-----	70	57	
582B: Homen-----	White oak-----	75	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
582C2: Homen-----	White oak-----	75	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak.
585F: Negley-----	Black cherry-----	---	---	Eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak.
	Black walnut-----	---	---	
	Northern red oak-----	94	72	
	Sugar maple-----	---	---	
	Tuliptree-----	99	100	
	White ash-----	---	---	
630D3: Navlys-----	Black walnut-----	---	---	Scotch pine, eastern white pine, green ash, northern red oak, tuliptree.
	Northern red oak-----	80	57	
	Tuliptree-----	90	86	
	White oak-----	80	57	
657A: Burksville-----	Eastern cottonwood-----	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Green ash-----	60	57	
	White oak-----	70	57	
701F: Menfro-----	Black oak-----	73	57	Black walnut, eastern white pine, green ash, shortleaf pine, sugar maple, tuliptree, white oak.
	Northern red oak-----	81	57	
	Sugar maple-----	68	72	
	White ash-----	70	72	
	White oak-----	59	43	
Hickory-----	Bitternut hickory-----	---	---	Black walnut, eastern white pine, red pine, sugar maple, tuliptree, white oak.
	Black oak-----	---	---	
	Green ash-----	---	---	
	Northern red oak-----	85	72	
	Tuliptree-----	95	100	
	White oak-----	85	72	
702F: Ruma-----	White oak-----	75	57	Black walnut, eastern white pine, green ash, sugar maple, tuliptree, white oak.

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
702F:				
Hickory-----	Bitternut hickory-----	---	---	Black walnut, eastern white pine, red pine, sugar maple, tuliptree, white oak.
	Black oak-----	---	---	
	Green ash-----	---	---	
	Northern red oak-----	85	72	
	Tuliptree-----	95	100	
	White oak-----	85	72	
703A:				
Pierron.				
Burksville-----	Eastern cottonwood-----	---	---	Eastern redcedar, eastern white pine, green ash, osageorange.
	Green ash-----	60	57	
	White oak-----	70	57	
878C3:				
Coulterville-----	Black oak-----	---	---	Eastern redcedar, eastern white pine, green ash, white oak.
	Pignut hickory-----	---	---	
	White oak-----	70	57	
Grantfork-----	Black oak-----	70	57	Eastern redcedar, eastern white pine, green ash, white ash.
	Post oak-----	---	---	
	Shagbark hickory-----	---	---	
880B2:				
Coulterville-----	Black oak-----	---	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine, green ash.
	Pignut hickory-----	---	---	
	Post oak-----	---	---	
	White oak-----	70	57	
Darmstadt-----	Black oak-----	70	57	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine, green ash.
	Pignut hickory-----	---	---	
	Post oak-----	---	---	
	White oak-----	70	57	
882B:				
Oconee-----	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
Coulterville-----	Black oak-----	---	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine, green ash.
	Pignut hickory-----	---	---	
	White oak-----	70	57	
Darmstadt-----	Black oak-----	70	57	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine, green ash.
	Pignut hickory-----	---	---	
	Post oak-----	---	---	
	White oak-----	70	57	
885A:				
Viriden-----	---	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
Fosterburg-----	---	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
894A:				
Herrick-----	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
Biddle-----	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
Piasa-----	---	---	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine, green ash.
897D3:				
Bunkum-----	White oak-----	75	57	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
Atlas-----	Bur oak-----	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash.
	Green ash-----	---	---	
	Northern red oak-----	70	57	
	White oak-----	70	57	
914C3:				
Atlas-----	Bur oak-----	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash.
	Green ash-----	---	---	
	Northern red oak-----	70	57	
	White oak-----	70	57	
Grantfork-----	Black oak-----	70	57	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine, green ash.
	Post oak-----	---	---	
	Shagbark hickory-----	---	---	
914D3:				
Atlas-----	Bur oak-----	70	57	Green ash, pin oak, red maple.
	Green ash-----	---	---	
	Northern red oak-----	70	57	
	White oak-----	70	57	
Grantfork-----	Black oak-----	70	57	Eastern redcedar, eastern white pine, green ash, white ash.
	Post oak-----	---	---	
	Shagbark hickory-----	---	---	
962D2:				
Sylvan-----	Black walnut-----	---	---	Black walnut, eastern white pine, green ash, northern red oak, sugar maple, white oak.
	Northern red oak-----	80	57	
	White oak-----	80	57	
Bold.				

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
962F2:				
Sylvan-----	Black walnut-----	---	---	Black walnut, eastern white pine, green ash, northern red oak, sugar maple, white oak.
	Northern red oak-----	80	57	
	White oak-----	80	57	
Bold.				
967F:				
Hickory-----	Bitternut hickory-----	---	---	Black walnut, eastern white pine, red pine, sugar maple, tuliptree, white oak.
	Black oak-----	---	---	
	Green ash-----	---	---	
	Northern red oak-----	85	72	
	Tuliptree-----	95	100	
	White oak-----	85	72	
Gosport-----	White oak-----	45	29	Norway spruce, Scotch pine, cottonwood, eastern white pine, red pine, white spruce.
993A:				
Cowden-----	---	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
Piasa-----	---	---	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine, green ash.
1070L:				
Beaucoup, undrained-----	Eastern cottonwood-----	100	129	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak-----	90	72	
	American sycamore-----	---	---	
3038B:				
Rocher-----	American sycamore-----	---	---	American sycamore, black walnut, eastern cottonwood, eastern white pine, green ash, sugar maple, sweetgum.
	Eastern cottonwood-----	105	143	
	Sweetgum-----	---	---	
	Tuliptree-----	95	100	
3070A:				
Beaucoup-----	American sycamore-----	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Cherrybark oak-----	---	---	
	Eastern cottonwood-----	100	129	
	Pin oak-----	90	72	
	Sweetgum-----	---	---	
3070L:				
Beaucoup-----	American sycamore-----	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Cherrybark oak-----	---	---	
	Eastern cottonwood-----	100	129	
	Pin oak-----	90	72	
	Sweetgum-----	---	---	

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
3071L: Darwin-----	American sycamore-----	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak, sweetgum.
	Eastern cottonwood-----	---	---	
	Green ash-----	---	---	
	Pin oak-----	80	57	
	Swamp white oak-----	---	---	
3333A: Wakeland-----	Black walnut-----	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Boxelder-----	---	---	
	Green ash-----	---	---	
	Pin oak-----	90	72	
3334A: Birds-----	American sycamore-----	---	---	Baldcypress, cherrybark oak, pin oak, swamp white oak.
	Eastern cottonwood-----	100	129	
	Pin oak-----	90	72	
3336A: Wilbur-----	Tuliptree-----	100	114	Black cherry, bur oak, green ash, pin oak, red maple, swamp white oak, sweetgum.
3415A: Orion-----	Red maple-----	---	---	Eastern cottonwood, silver maple, white ash.
	Silver maple-----	80	29	
	White ash-----	---	---	
3428A: Coffeen-----	Eastern cottonwood-----	100	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Green ash-----	---	---	
	Pin oak-----	90	72	
3451A: Lawson-----	Silver maple-----	70	29	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	White ash-----	---	---	
7037A: Worthen-----	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
7037B: Worthen-----	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
7053B: Bloomfield-----	Black oak-----	70	57	Scotch pine, eastern redcedar, eastern white pine, jack pine, red pine.
	Scarlet oak-----	---	---	
	Shagbark hickory-----	---	---	
	White oak-----	---	---	

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
7075B: Drury-----	White oak-----	85	72	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Northern red oak-----	85	72	
	Green ash-----	---	---	
7081A: Littleton-----	Pin oak-----	90	---	---
	Eastern cottonwood-----	---	---	
	Swamp white oak-----	---	---	
	Bur oak-----	---	---	
	American sycamore-----	---	---	
7122B: Colp-----	Bur oak-----	70	57	Black walnut, eastern white pine, green ash, northern red oak, tuliptree, white ash, white oak.
	Northern red oak-----	70	57	
	White ash-----	---	---	
	White oak-----	70	57	
7122C: Colp-----	Bur oak-----	70	57	Black walnut, eastern white pine, green ash, northern red oak, tuliptree, white ash, white oak.
	Northern red oak-----	70	57	
	White ash-----	---	---	
	White oak-----	70	57	
7338A: Hurst-----	Black oak-----	---	---	Baldcypress, bur oak, eastern redcedar, green ash, pin oak.
	Bur oak-----	---	---	
	Post oak-----	---	---	
	White ash-----	---	---	
	White oak-----	70	57	
7432A: Geff-----	Bur oak-----	---	---	Green ash, sugar maple, sweetgum, tuliptree, white oak.
	Green ash-----	---	---	
	Northern red oak-----	70	57	
	White oak-----	70	57	
7434B: Ridgway-----	Green ash-----	76	72	Black walnut, eastern white pine, green ash, white oak.
	White oak-----	85	72	
7741B: Oakville-----	Eastern white pine-----	85	200	Eastern white pine, jack pine, red pine.
	Jack pine-----	68	100	
	Red pine-----	78	143	
	White oak-----	70	72	
7741C: Oakville-----	Eastern white pine-----	85	200	Eastern white pine, jack pine, red pine.
	Jack pine-----	68	100	
	Red pine-----	78	143	
	White oak-----	70	72	
8038B: Rocher-----	American sycamore-----	---	---	Black walnut, eastern cottonwood, eastern white pine, green ash, sugar maple, sweetgum, tuliptree.
	Eastern cottonwood-----	105	143	
	Sweetgum-----	---	---	
	Tuliptree-----	95	100	

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
8070A: Beaucoup-----	American sycamore-----	---	---	American sycamore, eastern cottonwood, pin oak, red maple, sweetgum.
	Cherrybark oak-----	---	---	
	Eastern cottonwood-----	100	129	
	Pin oak-----	90	72	
	Sweetgum-----	---	---	
8071L: Darwin-----	American sycamore-----	---	---	Green ash, pin oak, red maple, swamp white oak.
	Eastern cottonwood-----	---	---	
	Green ash-----	---	---	
	Pin oak-----	80	57	
	Swamp white oak-----	---	---	
8078A: Arenzville-----	Bur oak-----	---	---	Black walnut, eastern white pine, northern red oak, red pine, white spruce.
	Northern red oak-----	65	43	
	Silver maple-----	---	---	
8284A: Tice-----	Virginia pine-----	90	129	American sycamore, cherrybark oak, eastern cottonwood, green ash, red maple, tuliptree.
	Eastern cottonwood-----	---	---	
	Pin oak-----	96	72	
	Sweetgum-----	86	100	
	Tuliptree-----	90	86	
	White ash-----	---	---	
8331A: Haymond-----	Black walnut-----	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.
	Green ash-----	---	---	
8333A: Wakeland-----	Virginia pine-----	85	129	American sycamore, baldcypress, bur oak, green ash, pin oak, red maple, swamp white oak, sweetgum.
	Pin oak-----	90	72	
	Sweetgum-----	88	100	
	Tuliptree-----	90	86	
8334A: Birds-----	American sycamore-----	---	---	American sycamore, baldcypress, eastern cottonwood, red maple, water tupelo.
	Cherrybark oak-----	---	---	
	Eastern cottonwood-----	100	129	
	Pin oak-----	90	72	
	Sweetgum-----	---	---	
8415A: Orion-----	Red maple-----	---	---	Eastern cottonwood, silver maple, white ash.
	Silver maple-----	80	29	
	White ash-----	---	---	
8591A: Fults-----	American sycamore-----	---	---	American sycamore, green ash, pin oak, red maple.
	Eastern cottonwood-----	---	---	
	Green ash-----	---	---	
	Pin oak-----	80	57	
	Swamp white oak-----	---	---	

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
8674A: Dozaville-----	---	---	---	Common hackberry, common persimmon, eastern cottonwood, green ash, pecan, pin oak, swamp white oak.

Table 9a.--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
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
31A: Pierron-----	Moderate: Low strength	0.50	Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50	Severe: Low strength	1.00
35F: Bold-----	Moderate: Slope Low strength	0.50 0.50	Poorly suited: Slope Low strength	1.00 0.50	Severe: Low strength	1.00
46A: Herrick-----	Moderate: Low strength	0.50	Moderately suited: Low strength Wetness	0.50 0.50	Severe: Low strength	1.00
50A: Virden-----	Moderate: Low strength	0.50	Poorly suited: Ponding Wetness Low strength	1.00 1.00 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
79C3: 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 9a.--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
79F: Menfro-----	Moderate: Slope Low strength	0.50 0.50	Poorly suited: Slope Low strength	1.00 0.50	Severe: Low strength	1.00
79F3: Menfro-----	Moderate: Slope Low strength	0.50 0.50	Poorly suited: Slope Low strength	1.00 0.50	Severe: Low strength	1.00
79G: Menfro-----	Severe: Slope Low strength	1.00 0.50	Poorly suited: Slope Low strength	1.00 0.50	Severe: Low strength	1.00
90A: Bethalto-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength	0.50 0.50	Severe: Low strength	1.00
113A: Oconee-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength	0.50 0.50	Severe: Low strength	1.00
113B: Oconee-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength	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
165A: Weir-----	Moderate: Low strength	0.50	Poorly suited: Wetness Low strength	1.00 0.50	Severe: Low strength	1.00
267A: Caseyville-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength	0.50 0.50	Severe: Low strength	1.00
267B: Caseyville-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength	0.50 0.50	Severe: Low strength	1.00

Table 9a.--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
283B: Downsouth-----	Moderate: Low strength	0.50	Moderately suited: Low strength	0.50	Severe: Low strength	1.00
283C2: Downsouth-----	Moderate: Low strength	0.50	Moderately suited: Low strength Slope	0.50 0.50	Severe: Low strength	1.00
384A: Edwardsville-----	Moderate: Low strength	0.50	Moderately suited: Low strength Wetness	0.50 0.50	Severe: Low strength	1.00
385A: Mascoutah-----	Moderate: Low strength	0.50	Poorly suited: Ponding Wetness Low strength	1.00 1.00 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
438C2: Aviston-----	Moderate: Low strength	0.50	Moderately suited: Low strength Slope	0.50 0.50	Severe: Low strength	1.00
441B: Wakenda-----	Moderate: Low strength	0.50	Moderately suited: Low strength	0.50	Severe: Low strength	1.00
441C2: Wakenda-----	Moderate: Low strength	0.50	Moderately suited: Low strength Slope	0.50 0.50	Severe: Low strength	1.00
474A: Piassa-----	Moderate: Low strength	0.50	Poorly suited: Ponding Wetness Low strength	1.00 1.00 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
477C3: Winfield-----	Moderate: Low strength	0.50	Moderately suited: Low strength Slope	0.50 0.50	Severe: Low strength	1.00

Table 9a.--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
477D3: Winfield-----	Moderate: Low strength	0.50	Poorly suited: Slope Low strength	1.00 0.50	Severe: Low strength	1.00
491B: Ruma-----	Moderate: Low strength	0.50	Moderately suited: Low strength	0.50	Severe: Low strength	1.00
491C2: Ruma-----	Moderate: Low strength	0.50	Moderately suited: Low strength Slope	0.50 0.50	Severe: Low strength	1.00
491D2: Ruma-----	Moderate: Low strength	0.50	Poorly suited: Slope Low strength	1.00 0.50	Severe: Low strength	1.00
491D3: Ruma-----	Moderate: Low strength	0.50	Poorly suited: Slope Low strength	1.00 0.50	Severe: Low strength	1.00
515B3: Bunkum-----	Moderate: Low strength	0.50	Moderately suited: Low strength Wetness	0.50 0.50	Severe: Low strength	1.00
515C3: Bunkum-----	Moderate: Low strength	0.50	Moderately suited: Low strength Slope Wetness	0.50 0.50 0.50	Severe: Low strength	1.00
515D3: Bunkum-----	Moderate: Low strength	0.50	Poorly suited: Slope Low strength Wetness	1.00 0.50 0.50	Severe: Low strength	1.00
517A: Marine-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength	0.50 0.50	Severe: Low strength	1.00
517B: Marine-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength	0.50 0.50	Severe: Low strength	1.00
533: Urban land-----	Not rated		Not rated		Not rated	
536: Dumps-----	Not rated		Not rated		Not rated	
581B2: Tamalco-----	Moderate: Low strength	0.50	Moderately suited: Low strength	0.50	Severe: Low strength	1.00

Table 9a.--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
582B: Homen-----	Moderate: Low strength	0.50	Moderately suited: Low strength	0.50	Severe: Low strength	1.00
582C2: Homen-----	Moderate: Low strength	0.50	Moderately suited: Low strength Slope	0.50 0.50	Severe: Low strength	1.00
585F: Negley-----	Moderate: Slope Low strength	0.50 0.50	Poorly suited: Slope Low strength	1.00 0.50	Severe: Low strength	1.00
630D3: Navlys-----	Moderate: Low strength	0.50	Poorly suited: Slope Low strength	1.00 0.50	Severe: Low strength	1.00
657A: Burksville-----	Moderate: Low strength	0.50	Poorly suited: Ponding Wetness Low strength	1.00 1.00 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
702F: Ruma-----	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
703A: Pierron-----	Moderate: Low strength	0.50	Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50	Severe: Low strength	1.00
Burksville-----	Moderate: Low strength	0.50	Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50	Severe: Low strength	1.00
801B: Orthents, silty----	Moderate: Low strength	0.50	Moderately suited: Low strength	0.50	Severe: Low strength	1.00

Table 9a.--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
801D: Orthents, silty-----	Moderate: Slope Low strength	0.50 0.50	Poorly suited: Slope Low strength	1.00 0.50	Severe: Low strength	1.00
802B: Orthents, loamy-----	Moderate: Low strength	0.50	Moderately suited: Low strength	0.50	Severe: Low strength	1.00
802D: Orthents, loamy-----	Moderate: Slope Low strength	0.50 0.50	Poorly suited: Slope Low strength	1.00 0.50	Severe: Low strength	1.00
864, 865: Pits-----	Not rated		Not rated		Not rated	
867: Oil waste land-----	Not rated		Not rated		Not rated	
878C3: Coulterville-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength Slope	0.50 0.50 0.50	Severe: Low strength	1.00
Grantfork-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength Slope	0.50 0.50 0.50	Severe: Low strength	1.00
880B2: Coulterville-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength	0.50 0.50	Severe: Low strength	1.00
Darmstadt-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength	0.50 0.50	Severe: Low strength	1.00
882B: Oconee-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength	0.50 0.50	Severe: Low strength	1.00
Coulterville-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength	0.50 0.50	Severe: Low strength	1.00
Darmstadt-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength	0.50 0.50	Severe: Low strength	1.00
885A: Virden-----	Moderate: Low strength	0.50	Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50	Severe: Low strength	1.00

Table 9a.--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
885A: Fosterburg-----	Moderate: Low strength	0.50	Poorly suited: Wetness Low strength	1.00 0.50	Severe: Low strength	1.00
894A: Herrick-----	Moderate: Low strength	0.50	Moderately suited: Low strength Wetness	0.50 0.50	Severe: Low strength	1.00
Biddle-----	Moderate: Low strength	0.50	Moderately suited: Low strength Wetness	0.50 0.50	Severe: Low strength	1.00
Piasa-----	Moderate: Low strength	0.50	Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50	Severe: Low strength	1.00
897D3: Bunkum-----	Moderate: Low strength	0.50	Poorly suited: Slope Low strength Wetness	1.00 0.50 0.50	Severe: Low strength	1.00
Atlas-----	Moderate: Stickiness/slope Low strength	0.50 0.50	Poorly suited: Slope Wetness Low strength Stickiness	1.00 0.50 0.50 0.50	Severe: Low strength	1.00
914C3: Atlas-----	Moderate: Low strength Stickiness/slope	0.50 0.50	Moderately suited: Wetness Low strength Slope Stickiness	0.50 0.50 0.50 0.50	Severe: Low strength	1.00
Grantfork-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength Slope	0.50 0.50 0.50	Severe: Low strength	1.00
914D3: Atlas-----	Moderate: Stickiness/slope Low strength	0.50 0.50	Poorly suited: Slope Wetness Low strength Stickiness	1.00 0.50 0.50 0.50	Severe: Low strength	1.00
Grantfork-----	Moderate: Low strength	0.50	Poorly suited: Slope Wetness Low strength	1.00 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

Table 9a.--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
962D2: Bold-----	Moderate: Low strength	0.50	Poorly suited: Slope Low strength	1.00 0.50	Severe: Low strength	1.00
962F2: 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
967F: Hickory-----	Moderate: Slope Low strength	0.50 0.50	Poorly suited: Slope Low strength	1.00 0.50	Severe: Low strength	1.00
Gosport-----	Moderate: Slope Stickiness/slope Low strength	0.50 0.50 0.50	Poorly suited: Slope Low strength	1.00 0.50	Severe: Low strength	1.00
993A: Cowden-----	Moderate: Low strength	0.50	Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50	Severe: Low strength	1.00
Piasa-----	Moderate: Wetness Low strength	0.75 0.50	Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50	Severe: Low strength	1.00
1070L: Beaucoup, undrained	Severe: Flooding Wetness Low strength	1.00 1.00 0.50	Poorly suited: Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50	Severe: Low strength Wetness	1.00 0.50
2071L: Darwin-----	Severe: Flooding Stickiness/slope Low strength	1.00 0.50 0.50	Poorly suited: Ponding Flooding Wetness Stickiness Low strength	1.00 1.00 1.00 0.50 0.50	Severe: Low strength	1.00
Aquents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2079D: Menfro-----	Moderate: Low strength	0.50	Moderately suited: Slope Low strength	0.50 0.50	Severe: Low strength	1.00

Table 9a.--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
2079D:						
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2113B:						
Oconee-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength	0.50 0.50	Severe: Low strength	1.00
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2122B:						
Colp-----	Moderate: Flooding Low strength	0.50 0.50	Moderately suited: Flooding Low strength Wetness	0.50 0.50 0.50	Severe: Low strength	1.00
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2183A:						
Shaffton-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Flooding Low strength Wetness	1.00 0.50 0.50	Severe: Low strength	1.00
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2284A:						
Tice-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Flooding Low strength Wetness	1.00 0.50 0.50	Severe: Low strength	1.00
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2304B:						
Landes-----	Severe: Flooding	1.00	Poorly suited: Flooding	1.00	Moderate: Low strength	0.50
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2384B:						
Edwardsville-----	Moderate: Low strength	0.50	Moderately suited: Low strength Wetness	0.50 0.50	Severe: Low strength	1.00
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	

Table 9a.--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
2477B:						
Winfield-----	Moderate: Low strength	0.50	Moderately suited: Low strength	0.50	Severe: Low strength	1.00
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2592A:						
Nameoki-----	Moderate: Flooding Stickiness/slope Low strength	0.50 0.50 0.50	Moderately suited: Flooding Stickiness Low strength Wetness	0.50 0.50 0.50 0.50	Severe: Low strength	1.00
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2741B:						
Oakville-----	Slight		Well suited		Moderate: Low strength	0.50
Psamments-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
3038B:						
Rocher-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Flooding Low strength	1.00 0.50	Severe: Low strength	1.00
3070A:						
Beaucoup-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50	Severe: Low strength	1.00
3070L:						
Beaucoup-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50	Severe: Low strength	1.00
3071L:						
Darwin-----	Severe: Flooding Stickiness/slope Low strength	1.00 0.50 0.50	Poorly suited: Ponding Flooding Wetness Stickiness Low strength	1.00 1.00 1.00 0.50 0.50	Severe: Low strength	1.00
3333A:						
Wakeland-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Flooding Wetness Low strength	1.00 0.50 0.50	Severe: Low strength	1.00

Table 9a.--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
3334A: Birds-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50	Severe: Low strength	1.00
3336A: Wilbur-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Flooding Low strength Wetness	1.00 0.50 0.50	Severe: Low strength	1.00
3415A: Orion-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Flooding Wetness Low strength	1.00 0.50 0.50	Severe: Low strength	1.00
3428A: Coffeen-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Flooding Low strength Wetness	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 Wetness	1.00 0.50 0.50	Severe: Low strength	1.00
3592A: Nameoki-----	Severe: Flooding Low strength Stickiness/slope	1.00 0.50 0.50	Poorly suited: Flooding Low strength Stickiness Wetness	1.00 0.50 0.50 0.50	Severe: Low strength	1.00
7037A: Worthen-----	Moderate: Low strength	0.50	Moderately suited: Low strength	0.50	Severe: Low strength	1.00
7037B: Worthen-----	Moderate: Low strength	0.50	Moderately suited: Low strength	0.50	Severe: Low strength	1.00
7053B: Bloomfield-----	Slight		Well suited		Moderate: Low strength	0.50
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 Wetness	0.50 0.50	Severe: Low strength	1.00

Table 9a.--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
7122B: Colp-----	Moderate: Low strength	0.50	Moderately suited: Low strength Wetness	0.50 0.50	Severe: Low strength	1.00
7122C: Colp-----	Moderate: Stickiness/slope Low strength	0.50 0.50	Moderately suited: Low strength Slope Wetness	0.50 0.50 0.50	Severe: Low strength	1.00
7150A: Onarga-----	Slight		Well suited		Moderate: Low strength	0.50
7151A: Ridgeville-----	Slight		Well suited		Moderate: Low strength	0.50
7338A: Hurst-----	Moderate: Low strength	0.50	Moderately suited: Wetness Low strength	0.50 0.50	Severe: Low strength	1.00
7430A: Raddle-----	Moderate: Low strength	0.50	Moderately suited: Low strength	0.50	Severe: Low strength	1.00
7432A: Geff-----	Moderate: Low strength	0.50	Moderately suited: Low strength Wetness	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
7445A: Newhaven-----	Moderate: Low strength	0.50	Moderately suited: Low strength	0.50	Severe: Low strength	1.00
7741B: Oakville-----	Slight		Well suited		Moderate: Low strength	0.50
7741C: Oakville-----	Slight		Moderately suited: Slope	0.50	Moderate: Low strength	0.50
8038B: Rocher-----	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 Wetness Low strength	1.00 1.00 1.00 0.50	Severe: Low strength	1.00

Table 9a.--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
8071L: Darwin-----	Severe: Flooding Stickiness/slope Low strength	1.00 0.50 0.50	Poorly suited: Ponding Flooding Wetness Stickiness Low strength	1.00 1.00 1.00 0.50 0.50	Severe: Low strength	1.00
8078A: Arenzville-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Flooding Low strength	1.00 0.50	Severe: Low strength	1.00
8180A: Dupo-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Flooding Wetness Low strength	1.00 0.50 0.50	Severe: Low strength	1.00
8183A: Shaffton-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Flooding Low strength Wetness	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 Wetness	1.00 0.50 0.50	Severe: Low strength	1.00
8302A: Ambraw-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50	Severe: Low strength	1.00
8304B: Landes-----	Moderate: Flooding	0.50	Moderately suited: Flooding	0.50	Moderate: Low strength	0.50
8331A: Haymond-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Flooding Low strength	1.00 0.50	Severe: Low strength	1.00
8333A: Wakeland-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Flooding Wetness Low strength	1.00 0.50 0.50	Severe: Low strength	1.00
8334A: Birds-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50	Severe: Low strength	1.00

Table 9a.--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
8415A: Orion-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Flooding Wetness Low strength	1.00 0.50 0.50	Severe: Low strength	1.00
8591A: Fults-----	Severe: Flooding Stickiness/slope Low strength	1.00 0.50 0.50	Poorly suited: Ponding Flooding Wetness Stickiness Low strength	1.00 1.00 1.00 0.50 0.50	Severe: Low strength	1.00
8592A: Nameoki-----	Severe: Flooding Stickiness/slope Low strength	1.00 0.50 0.50	Poorly suited: Flooding Stickiness Low strength Wetness	1.00 0.50 0.50 0.50	Severe: Low strength	1.00
8674A: Dozaville-----	Severe: Flooding Low strength	1.00 0.50	Poorly suited: Flooding Low strength	1.00 0.50	Severe: Low strength	1.00
8831A: Fluvaquents, clayey	Severe: Flooding Wetness Stickiness/slope Low strength	1.00 0.75 0.50 0.50	Poorly suited: Ponding Flooding Wetness Stickiness Low strength	1.00 1.00 1.00 0.50 0.50	Severe: Low strength	1.00

Table 9b.--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
8D3: Hickory-----	Slight		Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
8F: Hickory-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
31A: Pierron-----	Slight		Slight		Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50
35F: Bold-----	Severe: Slope/erodibility	0.75	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
46A: Herrick-----	Slight		Slight		Moderately suited: Low strength Wetness	0.50 0.50
50A: Virden-----	Slight		Slight		Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50
79B: Menfro-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50
79C2: Menfro-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Slope	0.50 0.50
79C3: Menfro-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Slope	0.50 0.50
79D2: Menfro-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
79D3: Menfro-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50

Table 9b.--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/erodibility	0.75	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
79F3: Menfro-----	Severe: Slope/erodibility	0.75	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
79G: Menfro-----	Very severe Slope/erodibility	0.95	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
90A: Bethalto-----	Slight		Slight		Moderately suited: Wetness Low strength	0.50 0.50
113A: Oconee-----	Slight		Slight		Moderately suited: Wetness Low strength	0.50 0.50
113B: Oconee-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Wetness Low strength	0.50 0.50
119C3: Elco-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Slope	0.50 0.50
119D2: Elco-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
119D3: Elco-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
165A: Weir-----	Slight		Slight		Poorly suited: Wetness Low strength	1.00 0.50
267A: Caseyville-----	Slight		Slight		Moderately suited: Wetness Low strength	0.50 0.50
267B: Caseyville-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Wetness Low strength	0.50 0.50

Table 9b.--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
283B: Downsouth-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50
283C2: Downsouth-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Slope	0.50 0.50
384A: Edwardsville-----	Slight		Slight		Moderately suited: Low strength Wetness	0.50 0.50
385A: Mascoutah-----	Slight		Slight		Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50
438B: Aviston-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50
438C2: Aviston-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Slope	0.50 0.50
441B: Wakenda-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50
441C2: Wakenda-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Slope	0.50 0.50
474A: Piassa-----	Slight		Slight		Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50
477B: Winfield-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50
477B3: Winfield-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50
477C2: Winfield-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Slope	0.50 0.50
477C3: Winfield-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Slope	0.50 0.50

Table 9b.--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
477D3: Winfield-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
491B: Ruma-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50
491C2: Ruma-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Slope	0.50 0.50
491D2: Ruma-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
491D3: Ruma-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
515B3: Bunkum-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Wetness	0.50 0.50
515C3: Bunkum-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Slope Wetness	0.50 0.50 0.50
515D3: Bunkum-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength Wetness	1.00 0.50 0.50
517A: Marine-----	Slight		Slight		Moderately suited: Wetness Low strength	0.50 0.50
517B: Marine-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Wetness Low strength	0.50 0.50
533: Urban land-----	Not rated		Not rated		Not rated	
536: Dumps-----	Not rated		Not rated		Not rated	
581B2: Tamalco-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50

Table 9b.--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
582B: Homen-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50
582C2: Homen-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Slope	0.50 0.50
585F: Negley-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
630D3: Navlys-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
657A: Burksville-----	Slight		Slight		Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50
701F: Menfro-----	Severe: Slope/erodibility	0.75	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
Hickory-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
702F: Ruma-----	Severe: Slope/erodibility	0.75	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
Hickory-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
703A: Pierron-----	Slight		Slight		Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50
Burksville-----	Slight		Slight		Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50
801B: Orthents, silty----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50

Table 9b.--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
801D: Orthents, silty-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
802B: Orthents, loamy-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50
802D: Orthents, loamy-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
864, 865: Pits-----	Not rated		Not rated		Not rated	
867: Oil waste land-----	Not rated		Not rated		Not rated	
878C3: Coulterville-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Wetness Low strength Slope	0.50 0.50 0.50
Grantfork-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Wetness Low strength Slope	0.50 0.50 0.50
880B2: Coulterville-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Wetness Low strength	0.50 0.50
Darmstadt-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Wetness Low strength	0.50 0.50
882B: Oconee-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Wetness Low strength	0.50 0.50
Coulterville-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Wetness Low strength	0.50 0.50
Darmstadt-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Wetness Low strength	0.50 0.50
885A: Viriden-----	Slight		Slight		Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50

Table 9b.--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
885A: Fosterburg-----	Slight		Slight		Poorly suited: Wetness Low strength	1.00 0.50
894A: Herrick-----	Slight		Slight		Moderately suited: Low strength Wetness	0.50 0.50
Biddle-----	Slight		Slight		Moderately suited: Low strength Wetness	0.50 0.50
Piasa-----	Slight		Slight		Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50
897D3: Bunkum-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength Wetness	1.00 0.50 0.50
Atlas-----	Slight		Severe: Slope/erodibility	0.95	Poorly suited: Slope Wetness Low strength Stickiness	1.00 0.50 0.50 0.50
914C3: Atlas-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Wetness Low strength Slope Stickiness	0.50 0.50 0.50 0.50
Grantfork-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Wetness Low strength Slope	0.50 0.50 0.50
914D3: Atlas-----	Slight		Severe: Slope/erodibility	0.95	Poorly suited: Slope Wetness Low strength Stickiness	1.00 0.50 0.50 0.50
Grantfork-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Wetness Low strength	1.00 0.50 0.50
962D2: Sylvan-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50

Table 9b.--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/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
962F2: Sylvan-----	Severe: Slope/erodibility	0.75	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
Bold-----	Severe: Slope/erodibility	0.75	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
967F: Hickory-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
Gosport-----	Severe: Slope/erodibility	0.75	Severe: Slope/erodibility	0.95	Poorly suited: Slope Low strength	1.00 0.50
993A: Cowden-----	Slight		Slight		Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50
Piassa-----	Slight		Slight		Poorly suited: Ponding Wetness Low strength	1.00 1.00 0.50
1070L: Beaucoup, undrained	Slight		Slight		Poorly suited: Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50
2071L: Darwin-----	Slight		Slight		Poorly suited: Ponding Flooding Wetness Stickiness Low strength	1.00 1.00 1.00 0.50 0.50
Aquents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2079D: Menfro-----	Moderate: Slope/erodibility	0.50	Severe: Slope/erodibility	0.95	Moderately suited: Slope Low strength	0.50 0.50
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	

Table 9b.--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
2113B:						
Oconee-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Wetness Low strength	0.50 0.50
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2122B:						
Colp-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Flooding Low strength Wetness	0.50 0.50 0.50
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2183A:						
Shaffton-----	Slight		Slight		Poorly suited: Flooding Low strength Wetness	1.00 0.50 0.50
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2284A:						
Tice-----	Slight		Slight		Poorly suited: Flooding Low strength Wetness	1.00 0.50 0.50
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2304B:						
Landes-----	Slight		Slight		Poorly suited: Flooding	1.00
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2384B:						
Edwardsville-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Wetness	0.50 0.50
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2477B:						
Winfield-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50

Table 9b.--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
2477B:						
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2592A:						
Nameoki-----	Slight		Slight		Moderately suited: Flooding Stickiness Low strength Wetness	0.50 0.50 0.50 0.50
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2741B:						
Oakville-----	Slight		Slight		Well suited	
Psamments-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
3038B:						
Rocher-----	Slight		Moderate: Slope/erodibility	0.50	Poorly suited: Flooding Low strength	1.00 0.50
3070A:						
Beaucoup-----	Slight		Slight		Poorly suited: Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50
3070L:						
Beaucoup-----	Slight		Slight		Poorly suited: Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50
3071L:						
Darwin-----	Slight		Slight		Poorly suited: Ponding Flooding Wetness Stickiness Low strength	1.00 1.00 1.00 0.50 0.50
3333A:						
Wakeland-----	Slight		Slight		Poorly suited: Flooding Wetness Low strength	1.00 0.50 0.50

Table 9b.--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
3334A: Birds-----	Slight		Slight		Poorly suited: Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50
3336A: Wilbur-----	Slight		Slight		Poorly suited: Flooding Low strength Wetness	1.00 0.50 0.50
3415A: Orion-----	Slight		Slight		Poorly suited: Flooding Wetness Low strength	1.00 0.50 0.50
3428A: Coffeen-----	Slight		Slight		Poorly suited: Flooding Low strength Wetness	1.00 0.50 0.50
3451A: Lawson-----	Slight		Slight		Poorly suited: Flooding Low strength Wetness	1.00 0.50 0.50
3592A: Nameoki-----	Slight		Slight		Poorly suited: Flooding Low strength Stickiness Wetness	1.00 0.50 0.50 0.50
7037A: Worthen-----	Slight		Slight		Moderately suited: Low strength	0.50
7037B: Worthen-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50
7053B: Bloomfield-----	Slight		Slight		Well suited	
7075B: Drury-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50
7081A: Littleton-----	Slight		Slight		Moderately suited: Low strength Wetness	0.50 0.50

Table 9b.--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
7122B: Colp-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Wetness	0.50 0.50
7122C: Colp-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength Slope Wetness	0.50 0.50 0.50
7150A: Onarga-----	Slight		Slight		Well suited	
7151A: Ridgeville-----	Slight		Slight		Well suited	
7338A: Hurst-----	Slight		Slight		Moderately suited: Wetness Low strength	0.50 0.50
7430A: Raddle-----	Slight		Slight		Moderately suited: Low strength	0.50
7432A: Geff-----	Slight		Slight		Moderately suited: Low strength Wetness	0.50 0.50
7434B: Ridgway-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Low strength	0.50
7445A: Newhaven-----	Slight		Slight		Moderately suited: Low strength	0.50
7741B: Oakville-----	Slight		Slight		Well suited	
7741C: Oakville-----	Slight		Moderate: Slope/erodibility	0.50	Moderately suited: Slope	0.50
8038B: Rocher-----	Slight		Moderate: Slope/erodibility	0.50	Poorly suited: Flooding Low strength	1.00 0.50
8070A: Beaucoup-----	Slight		Slight		Poorly suited: Ponding Flooding Wetness Low strength	1.00 1.00 1.00 0.50

Table 9b.--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
8071L: Darwin-----	Slight		Slight		Poorly suited: Ponding Flooding Wetness Stickiness Low strength	 1.00 1.00 1.00 0.50 0.50
8078A: Arenzville-----	Slight		Slight		Poorly suited: Flooding Low strength	 1.00 0.50
8180A: Dupo-----	Slight		Slight		Poorly suited: Flooding Wetness Low strength	 1.00 0.50 0.50
8183A: Shaffton-----	Slight		Slight		Poorly suited: Flooding Low strength Wetness	 1.00 0.50 0.50
8284A: Tice-----	Slight		Slight		Poorly suited: Flooding Low strength Wetness	 1.00 0.50 0.50
8302A: Ambraw-----	Slight		Slight		Poorly suited: Ponding Flooding Wetness Low strength	 1.00 1.00 1.00 0.50
8304B: Landes-----	Slight		Slight		Moderately suited: Flooding	 0.50
8331A: Haymond-----	Slight		Slight		Poorly suited: Flooding Low strength	 1.00 0.50
8333A: Wakeland-----	Slight		Slight		Poorly suited: Flooding Wetness Low strength	 1.00 0.50 0.50
8334A: Birds-----	Slight		Slight		Poorly suited: Ponding Flooding Wetness Low strength	 1.00 1.00 1.00 0.50

Table 9b.--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
8415A: Orion-----	Slight		Slight		Poorly suited: Flooding Wetness Low strength	1.00 0.50 0.50
8591A: Fults-----	Slight		Slight		Poorly suited: Ponding Flooding Wetness Stickiness Low strength	1.00 1.00 1.00 0.50 0.50
8592A: Nameoki-----	Slight		Slight		Poorly suited: Flooding Stickiness Low strength Wetness	1.00 0.50 0.50 0.50
8674A: Dozaville-----	Slight		Slight		Poorly suited: Flooding Low strength	1.00 0.50
8831A: Fluvaquents, clayey	Slight		Slight		Poorly suited: Ponding Flooding Wetness Stickiness Low strength	1.00 1.00 1.00 0.50 0.50

Table 9c.--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
8D3: Hickory-----	Moderately suited: Stickiness	0.50	Moderately suited: Slope Stickiness	0.50 0.50	Moderately suited: Low strength	0.50
8F: Hickory-----	Moderately suited: Stickiness	0.50	Unsuited: Slope Stickiness	1.00 0.50	Moderately suited: Low strength Slope	0.50 0.50
31A: Pierron-----	Well suited		Well suited		Moderately suited: Low strength	0.50
35F: Bold-----	Well suited		Unsuited: Slope	1.00	Moderately suited: Low strength Slope	0.50 0.50
46A: Herrick-----	Moderately suited: Stickiness	0.50	Moderately suited: Stickiness	0.50	Moderately suited: Low strength	0.50
50A: Virden-----	Moderately suited: Stickiness	0.50	Moderately suited: Stickiness	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
79C3: 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
79F: Menfro-----	Moderately suited: Stickiness	0.50	Unsuited: Slope Stickiness	1.00 0.50	Moderately suited: Low strength Slope	0.50 0.50

Table 9c.--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
79F3: Menfro-----	Moderately suited: Stickiness	0.50	Unsuited: Slope Stickiness	1.00 0.50	Moderately suited: Low strength Slope	0.50 0.50
79G: Menfro-----	Moderately suited: Slope Stickiness	0.50 0.50	Unsuited: Slope Stickiness	1.00 0.50	Poorly suited: Slope Low strength	1.00 0.50
90A: Bethalto-----	Well suited		Well suited		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
119C3: Elco-----	Moderately suited: Stickiness	0.50	Moderately suited: Slope Stickiness	0.50 0.50	Moderately suited: Low strength	0.50
119D2: Elco-----	Well suited		Moderately suited: Slope	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
165A: Weir-----	Moderately suited: Stickiness	0.50	Moderately suited: Stickiness	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
283B: Downsouth-----	Well suited		Well suited		Moderately suited: Low strength	0.50
283C2: Downsouth-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
384A: Edwardsville-----	Well suited		Well suited		Moderately suited: Low strength	0.50

Table 9c.--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
385A: Mascoutah-----	Well suited		Well suited		Moderately suited: Low strength	0.50
438B: Aviston-----	Well suited		Well suited		Moderately suited: Low strength	0.50
438C2: Aviston-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
441B: Wakenda-----	Well suited		Well suited		Moderately suited: Low strength	0.50
441C2: Wakenda-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
474A: Piasa-----	Poorly suited: Stickiness	0.75	Poorly suited: Stickiness	0.75	Moderately suited: Low strength	0.50
477B: Winfield-----	Well suited		Well suited		Moderately suited: Low strength	0.50
477B3: Winfield-----	Well suited		Well suited		Moderately suited: Low strength	0.50
477C2: Winfield-----	Well suited		Moderately suited: Slope	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
477D3: Winfield-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
491B: Ruma-----	Well suited		Well suited		Moderately suited: Low strength	0.50
491C2: Ruma-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
491D2: Ruma-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
491D3: Ruma-----	Moderately suited: Stickiness	0.50	Moderately suited: Slope Stickiness	0.50 0.50	Moderately suited: Low strength	0.50

Table 9c.--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
515B3: Bunkum-----	Well suited		Well suited		Moderately suited: Low strength	0.50
515C3: Bunkum-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
515D3: Bunkum-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
517A: Marine-----	Well suited		Well suited		Moderately suited: Low strength	0.50
517B: Marine-----	Well suited		Well suited		Moderately suited: Low strength	0.50
533: Urban land-----	Not rated		Not rated		Not rated	
536: Dumps-----	Not rated		Not rated		Not rated	
581B2: Tamalco-----	Poorly suited: Stickiness	0.75	Poorly suited: Stickiness	0.75	Moderately suited: Low strength	0.50
582B: Homen-----	Well suited		Well suited		Moderately suited: Low strength	0.50
582C2: Homen-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
585F: Negley-----	Well suited		Unsuited: Slope	1.00	Moderately suited: Low strength Slope	0.50 0.50
630D3: Navlys-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
657A: Burksville-----	Well suited		Well suited		Moderately suited: Low strength	0.50
701F: Menfro-----	Moderately suited: Stickiness	0.50	Unsuited: Slope Stickiness	1.00 0.50	Moderately suited: Low strength Slope	0.50 0.50
Hickory-----	Moderately suited: Stickiness	0.50	Unsuited: Slope Stickiness	1.00 0.50	Moderately suited: Low strength Slope	0.50 0.50

Table 9c.--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
702F: Ruma-----	Well suited		Unsuited: Slope	1.00	Moderately suited: Low strength Slope	0.50 0.50
Hickory-----	Moderately suited: Stickiness	0.50	Unsuited: Slope Stickiness	1.00 0.50	Moderately suited: Low strength Slope	0.50 0.50
703A: Pierron-----	Well suited		Well suited		Moderately suited: Low strength	0.50
Burksville-----	Well suited		Well suited		Moderately suited: Low strength	0.50
801B: Orthents, silty----	Well suited		Well suited		Moderately suited: Low strength	0.50
801D: Orthents, silty----	Well suited		Poorly suited: Slope	0.75	Moderately suited: Low strength Slope	0.50 0.50
802B: Orthents, loamy----	Well suited		Well suited		Moderately suited: Low strength	0.50
802D: Orthents, loamy----	Well suited		Poorly suited: Slope	0.75	Moderately suited: Low strength Slope	0.50 0.50
864, 865: Pits-----	Not rated		Not rated		Not rated	
867: Oil waste land-----	Not rated		Not rated		Not rated	
878C3: Coulterville-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
Grantfork-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
880B2: Coulterville-----	Well suited		Well suited		Moderately suited: Low strength	0.50
Darmstadt-----	Well suited		Well suited		Moderately suited: Low strength	0.50
882B: Oconee-----	Moderately suited: Stickiness	0.50	Moderately suited: Stickiness	0.50	Moderately suited: Low strength	0.50

Table 9c.--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
882B: Coulterville-----	Well suited		Well suited		Moderately suited: Low strength	0.50
Darmstadt-----	Well suited		Well suited		Moderately suited: Low strength	0.50
885A: Virден-----	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
897D3: 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 Stickiness	0.50 0.50
914C3: Atlas-----	Poorly suited: Stickiness	0.75	Poorly suited: Stickiness Slope	0.75 0.50	Moderately suited: Low strength Stickiness	0.50 0.50
Grantfork-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
914D3: Atlas-----	Poorly suited: Stickiness	0.75	Poorly suited: Stickiness Slope	0.75 0.50	Moderately suited: Low strength Stickiness	0.50 0.50
Grantfork-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
962D2: Sylvan-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
Bold-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
962F2: Sylvan-----	Well suited		Unsuited: Slope	1.00	Moderately suited: Low strength Slope	0.50 0.50

Table 9c.--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
962F2: Bold-----	Well suited		Unsuited: Slope	1.00	Moderately suited: Low strength Slope	0.50 0.50
967F: Hickory-----	Moderately suited: Stickiness	0.50	Unsuited: Slope Stickiness	1.00 0.50	Moderately suited: Low strength Slope	0.50 0.50
Gosport-----	Poorly suited: Stickiness	0.75	Unsuited: Slope Stickiness	1.00 0.75	Moderately suited: Low strength Slope	0.50 0.50
993A: Cowden-----	Moderately suited: Stickiness	0.50	Moderately suited: Stickiness	0.50	Moderately suited: Low strength	0.50
Piasa-----	Poorly suited: Wetness Stickiness	0.75 0.75	Poorly suited: Wetness Stickiness	0.75 0.75	Poorly suited: Wetness Low strength	0.75 0.50
1070L: Beaucoup, undrained	Poorly suited: Wetness	0.75	Poorly suited: Wetness	0.75	Poorly suited: Wetness Low strength	1.00 0.50
2071L: Darwin-----	Poorly suited: Stickiness	0.75	Poorly suited: Stickiness	0.75	Moderately suited: Low strength Stickiness	0.50 0.50
Aquents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2079D: Menfro-----	Moderately suited: Stickiness	0.50	Moderately suited: Slope Stickiness	0.50 0.50	Moderately suited: Low strength	0.50
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2113B: Oconee-----	Moderately suited: Stickiness	0.50	Moderately suited: Stickiness	0.50	Moderately suited: Low strength	0.50
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2122B: Colp-----	Poorly suited: Stickiness	0.75	Poorly suited: Stickiness	0.75	Moderately suited: Low strength	0.50
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	

Table 9c.--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
2183A:						
Shaffton-----	Well suited		Well suited		Moderately suited: Low strength	0.50
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2284A:						
Tice-----	Well suited		Well suited		Moderately suited: Low strength	0.50
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2304B:						
Landes-----	Well suited		Well suited		Well suited	
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2384B:						
Edwardsville-----	Well suited		Well suited		Moderately suited: Low strength	0.50
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2477B:						
Winfield-----	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2592A:						
Nameoki-----	Poorly suited: Stickiness	0.75	Poorly suited: Stickiness	0.75	Moderately suited: Low strength Stickiness	0.50 0.50
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2741B:						
Oakville-----	Well suited		Well suited		Well suited	
Psammets-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
3038B:						
Rocher-----	Well suited		Well suited		Moderately suited: Low strength	0.50

Table 9c.--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
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
3333A: Wakeland-----	Well suited		Well suited		Moderately suited: Low strength	0.50
3334A: Birds-----	Well suited		Well suited		Moderately suited: Low strength	0.50
3336A: Wilbur-----	Well suited		Well suited		Moderately suited: Low strength	0.50
3415A: Orion-----	Well suited		Well suited		Moderately suited: Low strength	0.50
3428A: Coffeen-----	Well suited		Well suited		Moderately suited: Low strength	0.50
3451A: Lawson-----	Well suited		Well suited		Moderately suited: Low strength	0.50
3592A: Nameoki-----	Poorly suited: Stickiness	0.75	Poorly suited: Stickiness	0.75	Moderately suited: Low strength Stickiness	0.50 0.50
7037A: Worthen-----	Well suited		Well suited		Moderately suited: Low strength	0.50
7037B: Worthen-----	Well suited		Well suited		Moderately suited: Low strength	0.50
7053B: Bloomfield-----	Well suited		Well suited		Well suited	
7075B: Drury-----	Well suited		Well suited		Moderately suited: Low strength	0.50
7081A: Littleton-----	Well suited		Well suited		Moderately suited: Low strength	0.50

Table 9c.--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
7122B: Colp-----	Poorly suited: Stickiness	0.75	Poorly suited: Stickiness	0.75	Moderately suited: Low strength	0.50
7122C: Colp-----	Poorly suited: Stickiness	0.75	Poorly suited: Stickiness Slope	0.75 0.50	Moderately suited: Low strength	0.50
7150A: Onarga-----	Well suited		Well suited		Well suited	
7151A: Ridgeville-----	Well suited		Well suited		Well suited	
7338A: Hurst-----	Poorly suited: Stickiness	0.75	Poorly suited: Stickiness	0.75	Moderately suited: Low strength	0.50
7430A: Raddle-----	Well suited		Well suited		Moderately suited: Low strength	0.50
7432A: Geff-----	Well suited		Well suited		Moderately suited: Low strength	0.50
7434B: Ridgway-----	Well suited		Well suited		Moderately suited: Low strength	0.50
7445A: Newhaven-----	Well suited		Well suited		Moderately suited: Low strength	0.50
7741B: Oakville-----	Well suited		Well suited		Well suited	
7741C: Oakville-----	Well suited		Moderately suited: Slope	0.50	Well suited	
8038B: Rocher-----	Well suited		Well suited		Moderately suited: Low strength	0.50
8070A: Beaucoup-----	Well suited		Well suited		Moderately suited: Low strength	0.50
8071L: Darwin-----	Poorly suited: Stickiness	0.75	Poorly suited: Stickiness	0.75	Moderately suited: Low strength Stickiness	0.50 0.50
8078A: Arenzville-----	Well suited		Well suited		Moderately suited: Low strength	0.50

Table 9c.--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
8180A: Dupo-----	Well suited		Well suited		Moderately suited: Low strength	0.50
8183A: Shaffton-----	Well suited		Well suited		Moderately suited: Low strength	0.50
8284A: Tice-----	Well suited		Well suited		Moderately suited: Low strength	0.50
8302A: Ambraw-----	Moderately suited: Stickiness	0.50	Moderately suited: Stickiness	0.50	Moderately suited: Low strength	0.50
8304B: Landes-----	Well suited		Well suited		Well suited	
8331A: Haymond-----	Well suited		Well suited		Moderately suited: Low strength	0.50
8333A: Wakeland-----	Well suited		Well suited		Moderately suited: Low strength	0.50
8334A: Birds-----	Well suited		Well suited		Moderately suited: Low strength	0.50
8415A: Orion-----	Well suited		Well suited		Moderately suited: Low strength	0.50
8591A: Fults-----	Poorly suited: Stickiness	0.75	Poorly suited: Stickiness	0.75	Moderately suited: Low strength Stickiness	0.50 0.50
8592A: Nameoki-----	Poorly suited: Stickiness	0.75	Poorly suited: Stickiness	0.75	Moderately suited: Low strength Stickiness	0.50 0.50
8674A: Dozaville-----	Well suited		Well suited		Moderately suited: Low strength	0.50
8831A: Fluvaquents, clayey	Poorly suited: Wetness Stickiness	0.75 0.75	Poorly suited: Wetness Stickiness	0.75 0.75	Poorly suited: Wetness Low strength Stickiness	0.75 0.50 0.50

Table 9d.--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
8D3: Hickory-----	Well suited		Well suited	
8F: Hickory-----	Poorly suited: Slope	0.50	Poorly suited: Slope	0.50
31A: Pierron-----	Well suited		Well suited	
35F: Bold-----	Poorly suited: Slope	0.50	Poorly suited: Slope	0.50
46A: Herrick-----	Well suited		Well suited	
50A: Virden-----	Well suited		Well suited	
79B: Menfro-----	Well suited		Well suited	
79C2: Menfro-----	Well suited		Well suited	
79C3: Menfro-----	Well suited		Well suited	
79D2: Menfro-----	Well suited		Well suited	
79D3: Menfro-----	Well suited		Well suited	
79F: Menfro-----	Poorly suited: Slope	0.50	Poorly suited: Slope	0.50
79F3: Menfro-----	Poorly suited: Slope	0.50	Poorly suited: Slope	0.50
79G: Menfro-----	Unsuited: Slope	1.00	Unsuited: Slope	1.00
90A: Bethalto-----	Well suited		Well suited	
113A: Oconee-----	Well suited		Well suited	

Table 9d.--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
113B: Oconee-----	Well suited		Well suited	
119C3: Elco-----	Well suited		Well suited	
119D2: Elco-----	Well suited		Well suited	
119D3: Elco-----	Well suited		Well suited	
165A: Weir-----	Well suited		Well suited	
267A: Caseyville-----	Well suited		Well suited	
267B: Caseyville-----	Well suited		Well suited	
283B: Downsouth-----	Well suited		Well suited	
283C2: Downsouth-----	Well suited		Well suited	
384A: Edwardsville-----	Well suited		Well suited	
385A: Mascoutah-----	Well suited		Well suited	
438B: Aviston-----	Well suited		Well suited	
438C2: Aviston-----	Well suited		Well suited	
441B: Wakenda-----	Well suited		Well suited	
441C2: Wakenda-----	Well suited		Well suited	
474A: Piassa-----	Poorly suited: Stickiness	0.50	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 9d.--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
477D3: Winfield-----	Well suited		Well suited	
491B: Ruma-----	Well suited		Well suited	
491C2: Ruma-----	Well suited		Well suited	
491D2: Ruma-----	Well suited		Well suited	
491D3: Ruma-----	Well suited		Well suited	
515B3: Bunkum-----	Well suited		Well suited	
515C3: Bunkum-----	Well suited		Well suited	
515D3: Bunkum-----	Well suited		Well suited	
517A: Marine-----	Well suited		Well suited	
517B: Marine-----	Well suited		Well suited	
533: Urban land-----	Not rated		Not rated	
536: Dumps-----	Not rated		Not rated	
581B2: Tamalco-----	Poorly suited: Stickiness	0.50	Well suited	
582B: Homen-----	Well suited		Well suited	
582C2: Homen-----	Well suited		Well suited	
585F: Negley-----	Poorly suited: Slope	0.50	Poorly suited: Slope	0.50
630D3: Navlys-----	Well suited		Well suited	
657A: Burksville-----	Well suited		Well suited	
701F: Menfro-----	Poorly suited: Slope	0.50	Poorly suited: Slope	0.50

Table 9d.--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
701F: Hickory-----	Poorly suited: Slope	0.50	Poorly suited: Slope	0.50
702F: Ruma-----	Poorly suited: Slope	0.50	Poorly suited: Slope	0.50
Hickory-----	Poorly suited: Slope	0.50	Poorly suited: Slope	0.50
703A: Pierron-----	Well suited		Well suited	
Burksville-----	Well suited		Well suited	
801B: Orthents, silty----	Well suited		Well suited	
801D: Orthents, silty----	Poorly suited: Slope	0.50	Poorly suited: Slope	0.50
802B: Orthents, loamy----	Well suited		Well suited	
802D: Orthents, loamy----	Poorly suited: Slope	0.50	Poorly suited: Slope	0.50
864, 865: Pits-----	Not rated		Not rated	
867: Oil waste land-----	Not rated		Not rated	
878C3: Coulterville-----	Well suited		Well suited	
Grantfork-----	Well suited		Well suited	
880B2: Coulterville-----	Well suited		Well suited	
Darmstadt-----	Well suited		Well suited	
882B: Oconee-----	Well suited		Well suited	
Coulterville-----	Well suited		Well suited	
Darmstadt-----	Well suited		Well suited	
885A: Virden-----	Well suited		Well suited	
Fosterburg-----	Well suited		Well suited	

Table 9d.--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:				
Herrick-----	Well suited		Well suited	
Biddle-----	Well suited		Well suited	
Piasa-----	Poorly suited: Stickiness	0.50	Well suited	
897D3:				
Bunkum-----	Well suited		Well suited	
Atlas-----	Poorly suited: Stickiness	0.50	Well suited	
914C3:				
Atlas-----	Poorly suited: Stickiness	0.50	Well suited	
Grantfork-----	Well suited		Well suited	
914D3:				
Atlas-----	Poorly suited: Stickiness	0.50	Well suited	
Grantfork-----	Well suited		Well suited	
962D2:				
Sylvan-----	Well suited		Well suited	
Bold-----	Well suited		Well suited	
962F2:				
Sylvan-----	Poorly suited: Slope	0.50	Poorly suited: Slope	0.50
Bold-----	Poorly suited: Slope	0.50	Poorly suited: Slope	0.50
967F:				
Hickory-----	Poorly suited: Slope	0.50	Poorly suited: Slope	0.50
Gosport-----	Poorly suited: Slope Stickiness	0.50 0.50	Poorly suited: Slope	0.50
993A:				
Cowden-----	Well suited		Well suited	
Piasa-----	Unsuited: Wetness Stickiness	0.75 0.50	Unsuited: Wetness	0.75
1070L:				
Beaucoup, undrained	Unsuited: Wetness	0.75	Unsuited: Wetness	1.00

Table 9d.--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
2071L:				
Darwin-----	Poorly suited: Stickiness	0.50	Well suited	
Aquents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2079D:				
Menfro-----	Well suited		Well suited	
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2113B:				
Oconee-----	Well suited		Well suited	
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2122B:				
Colp-----	Poorly suited: Stickiness	0.50	Well suited	
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2183A:				
Shaffton-----	Well suited		Well suited	
Fluvents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2284A:				
Tice-----	Well suited		Well suited	
Fluvents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2304B:				
Landes-----	Well suited		Well suited	
Fluvents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2384B:				
Edwardsville-----	Well suited		Well suited	
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	

Table 9d.--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
2477B:				
Winfield-----	Well suited		Well suited	
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2592A:				
Nameoki-----	Poorly suited: Stickiness	0.50	Well suited	
Fluvents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2741B:				
Oakville-----	Well suited		Well suited	
Psamments-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
3038B:				
Rocher-----	Well suited		Well suited	
3070A:				
Beaucoup-----	Well suited		Well suited	
3070L:				
Beaucoup-----	Well suited		Well suited	
3071L:				
Darwin-----	Poorly suited: Stickiness	0.50	Well suited	
3333A:				
Wakeland-----	Well suited		Well suited	
3334A:				
Birds-----	Well suited		Well suited	
3336A:				
Wilbur-----	Well suited		Well suited	
3415A:				
Orion-----	Well suited		Well suited	
3428A:				
Coffeen-----	Well suited		Well suited	
3451A:				
Lawson-----	Well suited		Well suited	
3592A:				
Nameoki-----	Poorly suited: Stickiness	0.50	Well suited	
7037A:				
Worthen-----	Well suited		Well suited	

Table 9d.--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
7037B: Worthen-----	Well suited		Well suited	
7053B: Bloomfield-----	Well suited		Well suited	
7075B: Drury-----	Well suited		Well suited	
7081A: Littleton-----	Well suited		Well suited	
7122B: Colp-----	Poorly suited: Stickiness	0.50	Well suited	
7122C: Colp-----	Poorly suited: Stickiness	0.50	Well suited	
7150A: Onarga-----	Well suited		Well suited	
7151A: Ridgeville-----	Well suited		Well suited	
7338A: Hurst-----	Poorly suited: Stickiness	0.50	Well suited	
7430A: Raddle-----	Well suited		Well suited	
7432A: Geff-----	Well suited		Well suited	
7434B: Ridgway-----	Well suited		Well suited	
7445A: Newhaven-----	Well suited		Well suited	
7741B: Oakville-----	Well suited		Well suited	
7741C: Oakville-----	Well suited		Well suited	
8038B: Rocher-----	Well suited		Well suited	
8070A: Beaucoup-----	Well suited		Well suited	
8071L: Darwin-----	Poorly suited: Stickiness	0.50	Well suited	
8078A: Arenzville-----	Well suited		Well suited	

Table 9d.--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
8180A: Dupo-----	Well suited		Well suited	
8183A: Shaffton-----	Well suited		Well suited	
8284A: Tice-----	Well suited		Well suited	
8302A: Ambraw-----	Well suited		Well suited	
8304B: Landes-----	Well suited		Well suited	
8331A: Haymond-----	Well suited		Well suited	
8333A: Wakeland-----	Well suited		Well suited	
8334A: Birds-----	Well suited		Well suited	
8415A: Orion-----	Well suited		Well suited	
8591A: Fults-----	Poorly suited: Stickiness	0.50	Well suited	
8592A: Nameoki-----	Poorly suited: Stickiness	0.50	Well suited	
8674A: Dozaville-----	Well suited		Well suited	
8831A: Fluvaquents, clayey	Unsuited: Wetness Stickiness	0.75 0.50	Unsuited: Wetness	0.75

Table 9e.--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
8D3: Hickory-----	Low	
8F: Hickory-----	Low	
31A: Pierron-----	High: Wetness	1.00
35F: Bold-----	Moderate: Lime Soil reaction	0.50 0.50
46A: Herrick-----	Low	
50A: Virden-----	High: Wetness	1.00
79B: Menfro-----	Low	
79C2: Menfro-----	Low	
79C3: Menfro-----	Low	
79D2: Menfro-----	Low	
79D3: Menfro-----	Low	
79F: Menfro-----	Low	
79F3: Menfro-----	Low	
79G: Menfro-----	Low	
90A: Bethalto-----	High: Wetness	1.00
113A: Oconee-----	High: Wetness	1.00

Table 9e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
113B: Oconee-----	High: Wetness	1.00
119C3: Elco-----	Low	
119D2: Elco-----	Low	
119D3: Elco-----	Low	
165A: Weir-----	High: Wetness	1.00
267A: Caseyville-----	High: Wetness	1.00
267B: Caseyville-----	High: Wetness	1.00
283B: Downsouth-----	Low	
283C2: Downsouth-----	Low	
384A: Edwardsville-----	Low	
385A: Mascoutah-----	High: Wetness	1.00
438B: Aviston-----	Low	
438C2: Aviston-----	Low	
441B: Wakenda-----	Low	
441C2: Wakenda-----	Low	
474A: Piasa-----	High: Wetness	1.00
477B: Winfield-----	Low	
477B3: Winfield-----	Low	
477C2: Winfield-----	Low	

Table 9e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
477C3: Winfield-----	Low	
477D3: Winfield-----	Low	
491B: Ruma-----	Low	
491C2: Ruma-----	Low	
491D2: Ruma-----	Low	
491D3: Ruma-----	Low	
515B3: Bunkum-----	Low	
515C3: Bunkum-----	Low	
515D3: Bunkum-----	Low	
517A: Marine-----	High: Wetness	1.00
517B: Marine-----	High: Wetness	1.00
533: Urban land-----	Not rated	
536: Dumps-----	Not rated	
581B2: Tamalco-----	Low	
582B: Homen-----	Low	
582C2: Homen-----	Low	
585F: Negley-----	Low	
630D3: Navlys-----	Low	
657A: Burksville-----	High: Wetness	1.00

Table 9e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
701F:		
Menfro-----	Low	
Hickory-----	Low	
702F:		
Ruma-----	Low	
Hickory-----	Low	
703A:		
Pierron-----	High: Wetness	1.00
Burksville-----	High: Wetness	1.00
801B:		
Orthents, silty----	Low	
801D:		
Orthents, silty----	Low	
802B:		
Orthents, loamy----	Low	
802D:		
Orthents, loamy----	Low	
864, 865:		
Pits-----	Not rated	
867:		
Oil waste land-----	Not rated	
878C3:		
Coulterville-----	High: Wetness	1.00
Grantfork-----	High: Wetness	1.00
880B2:		
Coulterville-----	High: Wetness	1.00
Darmstadt-----	High: Wetness	1.00
882B:		
Oconee-----	High: Wetness	1.00
Coulterville-----	High: Wetness	1.00
Darmstadt-----	High: Wetness	1.00
885A:		
Virden-----	High: Wetness	1.00

Table 9e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
885A: Fosterburg-----	High: Wetness	1.00
894A: Herrick-----	Low	
Biddle-----	Low	
Piasa-----	High: Wetness	1.00
897D3: Bunkum-----	Low	
Atlas-----	High: Wetness	1.00
914C3: Atlas-----	High: Wetness	1.00
Grantfork-----	High: Wetness	1.00
914D3: Atlas-----	High: Wetness	1.00
Grantfork-----	High: Wetness	1.00
962D2: Sylvan-----	Low	
Bold-----	Moderate: Lime Soil reaction	0.50 0.50
962F2: Sylvan-----	Low	
Bold-----	Moderate: Lime Soil reaction	0.50 0.50
967F: Hickory-----	Low	
Gosport-----	Low	
993A: Cowden-----	High: Wetness	1.00
Piasa-----	High: Wetness	1.00
1070L: Beaucoup, undrained	High: Wetness	1.00

Table 9e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
2071L:		
Darwin-----	High: Wetness	1.00
Aquents-----	Not rated	
Urban land-----	Not rated	
2079D:		
Menfro-----	Low	
Orthents-----	Not rated	
Urban land-----	Not rated	
2113B:		
Oconee-----	High: Wetness	1.00
Orthents-----	Not rated	
Urban land-----	Not rated	
2122B:		
Colp-----	Low	
Orthents-----	Not rated	
Urban land-----	Not rated	
2183A:		
Shaffton-----	Low	
Fluvents-----	Not rated	
Urban land-----	Not rated	
2284A:		
Tice-----	Low	
Fluvents-----	Not rated	
Urban land-----	Not rated	
2304B:		
Landes-----	Low	
Fluvents-----	Not rated	
Urban land-----	Not rated	
2384B:		
Edwardsville-----	Low	
Orthents-----	Not rated	
Urban land-----	Not rated	
2477B:		
Winfield-----	Low	

Table 9e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
2477B:		
Orthents-----	Not rated	
Urban land-----	Not rated	
2592A:		
Nameoki-----	Low	
Fluvents-----	Not rated	
Urban land-----	Not rated	
2741B:		
Oakville-----	Low	
Psamments-----	Not rated	
Urban land-----	Not rated	
3038B:		
Rocher-----	Moderate: Lime	0.50
3070A:		
Beaucoup-----	High: Wetness	1.00
3070L:		
Beaucoup-----	High: Wetness	1.00
3071L:		
Darwin-----	High: Wetness	1.00
3333A:		
Wakeland-----	High: Wetness	1.00
3334A:		
Birds-----	High: Wetness	1.00
3336A:		
Wilbur-----	Low	
3415A:		
Orion-----	High: Wetness	1.00
3428A:		
Coffeen-----	Low	
3451A:		
Lawson-----	Low	
3592A:		
Nameoki-----	Low	
7037A:		
Worthen-----	Low	

Table 9e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
7037B: Worthen-----	Low	
7053B: Bloomfield-----	Low	
7075B: Drury-----	Low	
7081A: Littleton-----	Low	
7122B: Colp-----	Low	
7122C: Colp-----	Low	
7150A: Onarga-----	Low	
7151A: Ridgeville-----	Low	
7338A: Hurst-----	High: Wetness	1.00
7430A: Raddle-----	Low	
7432A: Geff-----	Low	
7434B: Ridgway-----	Low	
7445A: Newhaven-----	Low	
7741B: Oakville-----	Low	
7741C: Oakville-----	Low	
8038B: Rocher-----	Moderate: Lime	0.50
8070A: Beaucoup-----	High: Wetness	1.00
8071L: Darwin-----	High: Wetness	1.00
8078A: Arenzville-----	Low	

Table 9e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
8180A: Dupo-----	High: Wetness	1.00
8183A: Shaffton-----	Low	
8284A: Tice-----	Low	
8302A: Ambraw-----	High: Wetness	1.00
8304B: Landes-----	Low	
8331A: Haymond-----	Low	
8333A: Wakeland-----	High: Wetness	1.00
8334A: Birds-----	High: Wetness	1.00
8415A: Orion-----	High: Wetness	1.00
8591A: Fults-----	High: Wetness	1.00
8592A: Nameoki-----	Low	
8674A: Dozaville-----	Low	
8831A: Fluvaquents, clayey	High: Wetness	1.00

Table 10.--Windbreaks and Environmental Plantings

(Only the soils suitable for windbreaks and environmental plantings are listed. 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
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, green ash, 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, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
31A: Pierron-----	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 whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
35F: Bold-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, northern whitecedar, shadbush, tamarack	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, eastern white pine, 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
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, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
50A: Viriden-----	Black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	American plum, blackhaw, nannyberry, prairie crabapple, roughleaf dogwood	Common hackberry, eastern redcedar, shadbush, witchhazel	Norway spruce, baldcypress, green ash, southern red oak, eastern white pine	Eastern cottonwood, pin oak
79B: Menfro-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Nannyberry, northern whitecedar, shadbush, tamarack, eastern redcedar	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, pin oak, eastern white pine
79C2: Menfro-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Nannyberry, shadbush, eastern redcedar	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, pin oak, eastern white pine
79C3: Menfro-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Nannyberry, northern whitecedar, shadbush, tamarack, eastern redcedar	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, pin oak, eastern white pine
79D2: Menfro-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Nannyberry, northern whitecedar, shadbush, tamarack, eastern redcedar	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, pin oak, 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
79D3: Menfro-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Nannyberry, shadbush, eastern redcedar	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, pin oak, eastern white pine
79F: Menfro-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Nannyberry, shadbush, eastern redcedar	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, pin oak, eastern white pine
79F3: Menfro-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Nannyberry, shadbush, eastern redcedar	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, pin oak, eastern white pine
79G: Menfro-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Nannyberry, northern whitecedar, shadbush, tamarack, eastern redcedar	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, pin oak, eastern white pine
90A: Bethalto-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, blackhaw, prairie crabapple, shadbush	Washington hawthorn, nannyberry, southern red oak	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, eastern white pine, 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
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 whitecedar, shingle oak	Green ash, 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 whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
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, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
119D2: Elco-----	Common winterberry, coralberry, gray dogwood, mapleleaf viburnum, redosier dogwood	American hazelnut, American plum, blackhaw, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, northern whitecedar, shadbush	Norway spruce, baldcypress, green ash, hackberry, tuliptree	Eastern cottonwood, eastern white pine, 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
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, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
165A: Weir-----	Black chokeberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, blackhaw, nannyberry, prairie crabapple, roughleaf dogwood	American witchhazel, common hackberry, eastern redcedar, northern whitecedar, shadbush, tamarack	Norway spruce, baldcypress, eastern white pine, green ash, northern red oak, tuliptree	Eastern cottonwood, pin oak
267A: Caseyville-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, blackhaw, prairie crabapple, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, eastern white pine, pin oak
267B: Caseyville-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, blackhaw, prairie crabapple, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, eastern white pine, pin oak
283B: Downsouth-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush, tamarack, northern whitecedar	Baldcypress, common hackberry, green ash, tuliptree, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
283C2: Downsouth-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush, tamarack, northern whitecedar	Baldcypress, common hackberry, green ash, tuliptree, Norway spruce	Eastern cottonwood, pin oak, 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
384A: Edwardsville-----	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel	Washington hawthorn, common persimmon, eastern redcedar, hackberry, northern whitecedar, shingle oak	Norway spruce, Shumard's oak, blackgum, bur oak, eastern white pine, green ash, pin oak, swamp white oak, white ash	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple
385A: Mascoutah-----	Black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	American plum, blackhaw, nannyberry, prairie crabapple, roughleaf dogwood	Common hackberry, eastern redcedar, shadbush, tamarack, witchhazel, northern whitecedar	Norway spruce, baldcypress, green ash, southern red oak, tuliptree, eastern white pine	Eastern cottonwood, pin oak
438B: Aviston-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, eastern white pine, pin oak
438C2: Aviston-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, eastern white pine, pin oak
441B: Wakenda-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush, tamarack, northern whitecedar	Baldcypress, common hackberry, green ash, tuliptree, Norway spruce	Eastern cottonwood, eastern white pine, pin oak
441C2: Wakenda-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush, tamarack, northern whitecedar	Baldcypress, common hackberry, green ash, tuliptree, Norway spruce	Eastern cottonwood, eastern white pine, 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
474A: Piasa-----	Common juniper-----	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas-fir, blue spruce, eastern white pine, green ash	---	---
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, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
477B3: Winfield-----	Common winterberry, coralberry, gray dogwood, mapleleaf viburnum, redosier dogwood	American hazelnut, American plum, blackhaw, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, northern whitecedar, shadbush	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, eastern white pine, pin oak
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, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
477C3: Winfield-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, northern whitecedar, shadbush, tamarack	Norway spruce, baldcypress, common hackberry, tuliptree, green ash	Eastern cottonwood, pin oak, 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
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, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
491B: Ruma-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, eastern white pine, pin oak
491C2: Ruma-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, eastern white pine, pin oak
491D2: Ruma-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, eastern white pine, pin oak
491D3: Ruma-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, eastern white pine, 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
515B3: 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, green ash, 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, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
515D3: 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, green ash, 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
517A: Marine-----	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 whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
517B: Marine-----	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 whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
581E2: Tamalco-----	---	Eastern redcedar, Russian-olive	Green ash, Siberian elm	---	---
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, green ash, 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
582C2: 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, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
585F: Negley-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush, tamarack, northern whitecedar	Baldcypress, common hackberry, green ash, tuliptree, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
630D3: Navlys-----	Silky dogwood-----	American cranberrybush	Washington hawthorn, blue spruce, northern whitecedar, white fir	Austrian pine, Norway spruce	Pin oak, eastern white pine
657A: Burksville-----	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 whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
701F: Menfro-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Nannyberry, shadbush, eastern redcedar	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, pin oak, 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: Hickory-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush	Baldcypress, common hackberry, green ash, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
702F: Ruma-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, eastern white pine, pin oak
Hickory-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush	Baldcypress, common hackberry, green ash, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
703A: Pierron-----	Black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	American plum, blackhaw, nannyberry, prairie crabapple, roughleaf dogwood	Common hackberry, eastern redcedar, shadbush	Norway spruce, baldcypress, green ash, southern red oak, eastern white pine	Eastern cottonwood, pin oak
Burksville-----	Black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	Common winterberry, eastern redcedar, hazelnut, shadbush	Eastern white pine, green ash	Douglas-fir, black locust, blue spruce	---
801B: Orthents, silty-----	Black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	American plum, blackhaw, nannyberry, prairie crabapple, roughleaf dogwood	Common hackberry, eastern redcedar, shadbush, tamarack, witchhazel, northern whitecedar	Baldcypress, eastern white pine, green ash, southern red oak, tuliptree, Norway spruce	Eastern cottonwood, pin oak
801D: Orthents, silty-----	Black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	American plum, blackhaw, nannyberry, prairie crabapple, roughleaf dogwood	Eastern redcedar, shadbush, witchhazel	Norway spruce, baldcypress, eastern white pine, green ash, southern red oak	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
802B: Orthents, loamy-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush, tamarack, northern whitecedar	Baldcypress, common hackberry, green ash, tuliptree, Norway spruce	Eastern cottonwood, eastern white pine, pin oak
802D: Orthents, loamy-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush, tamarack, northern whitecedar	Baldcypress, common hackberry, green ash, tuliptree, Norway spruce	Eastern cottonwood, eastern white pine, pin oak
878C3: Coulterville-----	Common juniper-----	Common winterberry, eastern redcedar, hazelnut, prairie crabapple, shadbush	Eastern white pine, green ash	Douglas-fir, black locust, blue spruce	---
Grantfork-----	Common juniper-----	Common winterberry, eastern redcedar, hazelnut, prairie crabapple, shadbush	Eastern white pine, green ash	Douglas-fir, black locust, blue spruce	---
880B2: Coulterville-----	Common juniper-----	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas-fir, blue spruce, eastern white pine, green ash	---	---
Darmstadt-----	Common juniper-----	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas-fir, blue spruce, eastern white pine, green ash	---	---

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
882B: Oconee-----	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, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Coulterville-----	Common juniper-----	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas-fir, blue spruce, eastern white pine, green ash	---	---
Darmstadt-----	Common juniper-----	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas-fir, blue spruce, eastern white pine, green ash	---	---
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 whitecedar, shingle oak	Green ash, 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 whitecedar, shingle oak	Green ash, 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, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Biddle-----	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, green ash, red maple, 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, green ash	---	---

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
897D3: 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, green ash, 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, green ash	Norway spruce-----	Carolina poplar
914C3: 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, green ash	Norway spruce-----	Carolina poplar
Grantfork-----	Common juniper-----	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas-fir, blue spruce, eastern white pine, green ash	---	---

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
914D3:					
Atlas-----	American plum, black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	Blackhaw, hazelnut, nannyberry, prairie crabapple, shadbush	Washington hawthorn, baldcypress, eastern redcedar, green ash	Norway spruce, eastern white pine, pin oak	Eastern cottonwood
Grantfork-----	Common juniper-----	Common winterberry, eastern redcedar, hazelnut, prairie crabapple, shadbush	Eastern white pine, green ash	Douglas-fir, black locust, blue spruce	---
962D2:					
Sylvan-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush, tamarack, northern whitecedar	Baldcypress, common hackberry, green ash, tuliptree, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
Bold-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, northern whitecedar, shadbush, tamarack	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, eastern white pine, pin oak
962F2:					
Sylvan-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush, tamarack, northern whitecedar	Baldcypress, common hackberry, green ash, tuliptree, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
Bold-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, northern whitecedar, shadbush, tamarack	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, eastern white pine, pin oak
967F:					
Hickory-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush	Baldcypress, common hackberry, green ash, Norway spruce	Eastern cottonwood, pin oak, 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
967F: Gosport-----	American cranberrybush	Southern arrowwood	Washington hawthorn, eastern redcedar, green ash, Osageorange, Austrian pine	Eastern white pine, pin oak	---
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 whitecedar, shingle oak	Green ash, 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, green ash	---	---
1070L: Beaucoup, undrained-----	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 whitecedar, shingle oak	Green ash, 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
2071L: Darwin-----	Black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	American plum, blackhaw, nannyberry, prairie crabapple, roughleaf dogwood	Common hackberry, eastern redcedar, northern whitecedar, shadbush, tamarack, witchhazel	Norway spruce, baldcypress, eastern white pine, green ash, southern red oak, tuliptree	Eastern cottonwood, pin oak
Aquents.					
Urban land.					
2079D: Menfro-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Nannyberry, northern whitecedar, shadbush, tamarack, eastern redcedar	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, pin oak, eastern white pine
Orthents.					
Urban land.					
2113B: Oconee-----	American plum, black chokeberry, gray coralberry, gray dogwood, mapleleaf arrowwood	Blackhaw, hazelnut, nannyberry, prairie crabapple, shadbush	Washington hawthorn, baldcypress, eastern redcedar, green ash, tamarack, northern whitecedar	Norway spruce, eastern white pine, pin oak	Eastern cottonwood
Orthents.					
Urban land.					
2122B: Colp-----	American plum, black chokeberry, gray coralberry, gray dogwood, mapleleaf arrowwood	Blackhaw, hazelnut, nannyberry, prairie crabapple, shadbush	Washington hawthorn, baldcypress, eastern redcedar, green ash	Norway spruce, eastern white pine, pin oak	Eastern cottonwood
Orthents.					
Urban land.					

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
2183A: Shaffton-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, prairie crabapple, rusty blackhaw, shadbush	Washington hawthorn, eastern redcedar, nannyberry, northern whitecedar, southern red oak, tamarack	Baldcypress, common hackberry, green ash, tuliptree, Norway spruce	Eastern cottonwood, eastern white pine, pin oak
Fluvents.					
Urban land.					
2284A: Tice-----	Gray dogwood, redosier dogwood	Silky dogwood-----	Amur maple, Russian- olive, baldcypress	Norway spruce, eastern white pine	American sycamore, eastern cottonwood, red maple
Fluvents.					
Urban land.					
2304B: Landes-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, blackhaw, prairie crabapple, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak	Baldcypress, common hackberry, green ash, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
Fluvents.					
Urban land.					
2384B: Edwardsville-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, prairie crabapple, rusty blackhaw, shadbush	Washington hawthorn, eastern redcedar, nannyberry, northern whitecedar, southern red oak, tamarack	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, eastern white pine, pin oak
Orthents.					
Urban land.					

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
2477B: Winfield-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, northern whitecedar, shadbush, tamarack	Norway spruce, baldcypress, common hackberry, tuliptree, green ash	Eastern cottonwood, pin oak, eastern white pine
Orthents.					
Urban land.					
2592A: Nameoki-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, blackhaw, prairie crabapple, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak	Baldcypress, common hackberry, green ash, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
Fluvents.					
Urban land.					
2741B: Oakville-----	Siberian peashrub, common lilac	Washington hawthorn, radiant crabapple	Austrian pine, eastern redcedar, jack pine, red pine	Eastern white pine	---
Psamments.					
Urban land.					
3038B: Rocher-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, prairie crabapple, shadbush, rusty blackhaw	Washington hawthorn, nannyberry, southern red oak, tamarack, eastern redcedar, northern whitecedar	Norway spruce, baldcypress, common hackberry, green ash, tuliptree	Eastern cottonwood, eastern white pine, 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
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 whitecedar, shingle oak	Green ash, 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 whitecedar, shingle oak	Green ash, 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 whitecedar, shingle oak	Green ash, 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
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, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3334A: Birds-----	Black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	American plum, blackhaw, nannyberry, prairie crabapple, roughleaf dogwood	Common hackberry, eastern redcedar, shadbush	Norway spruce, baldcypress, green ash, southern red oak, eastern white pine	Eastern cottonwood, pin oak
3336A: Wilbur-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, blackhaw, prairie crabapple, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak	Baldcypress, common hackberry, green ash, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
3415A: Orion-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, prairie crabapple, rusty blackhaw, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak, tamarack, northern whitecedar	Baldcypress, common hackberry, green ash, tuliptree, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
3428A: Coffeen-----	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, green ash, 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, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3592A: Nameoki-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, blackhaw, prairie crabapple, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak	Baldcypress, common hackberry, green ash, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
7037A: 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, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
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, green ash, 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
7053B: Bloomfield-----	Siberian peashrub, common lilac	Washington hawthorn, radiant crabapple	Austrian pine, eastern redcedar, jack pine, red pine	Eastern white pine	---
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, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7081A: Littleton-----	Silky dogwood-----	American cranberrybush	Washington hawthorn, blue spruce, northern whitecedar, white fir	Eastern white pine, Norway spruce	Pin oak
7122B: Colp-----	American plum, black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	Blackhaw, hazelnut, nannyberry, prairie crabapple, shadbush	Washington hawthorn, baldcypress, eastern redcedar, green ash	Norway spruce, eastern white pine, pin oak	Eastern cottonwood
7122C: Colp-----	American plum, black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	Blackhaw, hazelnut, nannyberry, prairie crabapple, shadbush	Washington hawthorn, baldcypress, eastern redcedar, green ash	Norway spruce, eastern white pine, pin oak	Eastern cottonwood
7150A: Onarga-----	---	American cranberrybush	Washington hawthorn, eastern redcedar, northern whitecedar, Osageorange	Norway 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
7151A: Ridgeville-----	Silky dogwood-----	American cranberrybush	Washington hawthorn, blue spruce, northern whitecedar, white fir	Austrian pine, Norway spruce	Pin oak, eastern white pine
7338A: Hurst-----	American plum, black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	Blackhaw, hazelnut, nannyberry, prairie crabapple, shadbush	Washington hawthorn, baldcypress, eastern redcedar, green ash, northern whitecedar, tamarack	Norway spruce, eastern white pine, pin oak	Eastern cottonwood
7430A: Raddle-----	---	American plum-----	Washington hawthorn	Norway spruce-----	Eastern white pine, pin oak
7432A: Geff-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, prairie crabapple, rusty blackhaw, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak, tamarack, northern whitecedar	Baldcypress, common hackberry, green ash, tuliptree, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
7434B: Ridgway-----	Common winterberry, coralberry, gray dogwood, mapleleaf arrowwood, redosier dogwood	American plum, blackhaw, hazelnut, prairie crabapple, roughleaf dogwood	Eastern redcedar, nannyberry, shadbush, tamarack, northern whitecedar	Baldcypress, common hackberry, green ash, tuliptree, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
7445A: Newhaven-----	Silky dogwood-----	American cranberrybush	Washington hawthorn, blue spruce, northern whitecedar, white fir	Austrian pine, Norway spruce	Pin oak, eastern white pine
7741B: Oakville-----	Siberian peashrub, common lilac	Washington hawthorn, radiant crabapple	Austrian pine, eastern redcedar, jack pine, red pine	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
7741C: Oakville-----	Siberian peashrub, common lilac	Washington hawthorn, radiant crabapple	Austrian pine, eastern redcedar, jack pine, red pine	Eastern white pine	---
8038B: Rocher-----	---	Blackhaw-----	Washington hawthorn, nannyberry, eastern redcedar, green ash	Common hackberry, honeylocust	---
8070A: Beaucoup-----	Black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	American plum, blackhaw, nannyberry, prairie crabapple, roughleaf dogwood	Common hackberry, eastern redcedar, shadbush	Norway spruce, baldcypress, green ash, southern red oak, eastern white pine	Eastern cottonwood, pin oak
8071L: Darwin-----	Black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	American plum, blackhaw, nannyberry, prairie crabapple, roughleaf dogwood	Common hackberry, eastern redcedar, shadbush	Baldcypress, green ash, southern red oak, Norway spruce, eastern white pine	Eastern cottonwood, pin oak
8078A: Arenzville-----	Common winterberry, coralberry, silky dogwood	American plum, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak	Norway spruce, baldcypress, common hackberry, green ash	Eastern cottonwood, eastern white pine, pin oak
8180A: Dupo-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, blackhaw, prairie crabapple, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak	Baldcypress, common hackberry, green ash, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
8183A: Shaffton-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, blackhaw, prairie crabapple, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak	Baldcypress, common hackberry, green ash, Norway spruce	Eastern cottonwood, pin oak, 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
8284A: Tice-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, blackhaw, prairie crabapple, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak	Baldcypress, common hackberry, green ash, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
8302A: Ambraw-----	Black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	American plum, blackhaw, nannyberry, prairie crabapple, roughleaf dogwood	Common hackberry, eastern redcedar, shadbush	Norway spruce, baldcypress, green ash, southern red oak, eastern white pine	Eastern cottonwood, pin oak
8304B: Landes-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, blackhaw, prairie crabapple, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak	Baldcypress, common hackberry, green ash, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
8331A: Haymond-----	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, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8333A: Wakeland-----	Silky dogwood-----	American cranberrybush	Washington hawthorn, blue spruce, white fir	Norway spruce-----	Pin oak, eastern white pine
8334A: Birds-----	Black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	American plum, blackhaw, nannyberry, prairie crabapple, roughleaf dogwood	Common hackberry, eastern redcedar, shadbush, tamarack, witchhazel, northern whitecedar	Norway spruce, baldcypress, green ash, southern red oak, tuliptree, eastern white pine	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
8415A: Orion-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, prairie crabapple, rusty blackhaw, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak, tamarack, northern whitecedar	Baldcypress, common hackberry, green ash, tuliptree, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
8591A: Fults-----	Black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	American plum, blackhaw, nannyberry, prairie crabapple, roughleaf dogwood	Common hackberry, eastern redcedar, shadbush	Norway spruce, baldcypress, green ash, southern red oak, eastern white pine	Eastern cottonwood, pin oak
8592A: Nameoki-----	Black chokeberry, common winterberry, coralberry, mapleleaf arrowwood, silky dogwood	American plum, blackhaw, prairie crabapple, shadbush	Washington hawthorn, eastern redcedar, nannyberry, southern red oak	Baldcypress, common hackberry, green ash, Norway spruce	Eastern cottonwood, pin oak, eastern white pine
8674A: Dozaville-----	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, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 11a.--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
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
31A: Pierron-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
35F: Bold-----	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
46A: Herrick-----	Somewhat limited: Depth to saturated zone	0.98	Somewhat limited: Depth to saturated zone	0.75	Somewhat limited: Depth to saturated zone	0.98
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
50A: Virden-----	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
79B: Menfro-----	Not limited		Not limited		Somewhat limited: Slope	0.50
79C2: Menfro-----	Not limited		Not limited		Very limited: Slope	1.00
79C3: 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

Table 11a.--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
79F: Menfro-----	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
79F3: Menfro-----	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
79G: Menfro-----	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
90A: Bethalto-----	Very limited: Depth to saturated zone	1.00	Somewhat limited: Depth to saturated zone	0.94	Very limited: Depth to saturated zone	1.00
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
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
165A: Weir-----	Very limited: Depth to saturated zone Restricted permeability	1.00 1.00	Very limited: Depth to saturated zone Restricted permeability	1.00 1.00	Very limited: Depth to saturated zone Restricted permeability	1.00 1.00
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

Table 11a.--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
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 0.50
283B: Downsouth-----	Not limited		Not limited		Somewhat limited: Slope	0.50
283C2: Downsouth-----	Not limited		Not limited		Very limited: Slope	1.00
384A: Edwardsville-----	Somewhat limited: Depth to saturated zone	0.98	Somewhat limited: Depth to saturated zone	0.75	Somewhat limited: Depth to saturated zone	0.98
385A: Mascoutah-----	Very limited: Depth to saturated zone Ponding	1.00 1.00	Very limited: Ponding Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00
438B: Aviston-----	Not limited		Not limited		Somewhat limited: Slope	0.50
438C2: Aviston-----	Not limited		Not limited		Very limited: Slope	1.00
441B: Wakenda-----	Not limited		Not limited		Somewhat limited: Slope	0.50
441C2: Wakenda-----	Not limited		Not limited		Very limited: Slope	1.00
474A: Piassa-----	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
477B: Winfield-----	Not limited		Not limited		Somewhat limited: Slope	0.28
477B3: Winfield-----	Not limited		Not limited		Somewhat limited: Slope	0.50
477C2: Winfield-----	Not limited		Not limited		Very limited: Slope	1.00

Table 11a.--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
477C3: Winfield-----	Not limited		Not limited		Very limited: Slope	1.00
477D3: Winfield-----	Somewhat limited: Slope	0.96	Somewhat limited: Slope	0.96	Very limited: Slope	1.00
491B: Ruma-----	Not limited		Not limited		Somewhat limited: Slope	0.50
491C2: Ruma-----	Not limited		Not limited		Very limited: Slope	1.00
491D2: Ruma-----	Somewhat limited: Slope	0.96	Somewhat limited: Slope	0.96	Very limited: Slope	1.00
491D3: Ruma-----	Somewhat limited: Slope	0.96	Somewhat limited: Slope	0.96	Very limited: Slope	1.00
515B3: 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
515C3: 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	Very limited: Slope Depth to saturated zone Restricted permeability	1.00 0.98 0.21
515D3: Bunkum-----	Somewhat limited: Depth to saturated zone Slope Restricted permeability	0.98 0.96 0.21	Somewhat limited: Slope Depth to saturated zone Restricted permeability	0.96 0.75 0.21	Very limited: Slope Depth to saturated zone Restricted permeability	1.00 0.98 0.21
517A: Marine-----	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

Table 11a.--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
517B: Marine-----	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
533: Urban land-----	Not rated		Not rated		Not rated	
536: Dumps-----	Not rated		Not rated		Not rated	
581B2: Tamalco-----	Very limited: Sodium content Restricted permeability	1.00 1.00	Very limited: Sodium content Restricted permeability	1.00 1.00	Very limited: Sodium content Restricted permeability Slope	1.00 1.00 0.50
582B: Homen-----	Somewhat limited: Restricted permeability	0.21	Somewhat limited: Restricted permeability	0.21	Somewhat limited: Slope Restricted permeability	0.28 0.21
582C2: Homen-----	Somewhat limited: Restricted permeability	0.21	Somewhat limited: Restricted permeability	0.21	Very limited: Slope Restricted permeability	1.00 0.21
585F: Negley-----	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope Gravel content	1.00 0.06
630D3: Navlys-----	Somewhat limited: Slope	0.96	Somewhat limited: Slope	0.96	Very limited: Slope	1.00
657A: Burksville-----	Very limited: Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.96	Very limited: Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.96	Very limited: Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.96
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
702F: Ruma-----	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00

Table 11a.--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
702F: Hickory-----	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
703A: Pierron-----	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	1.00	Restricted	1.00	Ponding	1.00
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
Burksville-----	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	1.00	Restricted	0.96	Ponding	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
801B: Orthents, silty----	Somewhat limited: Depth to saturated zone	0.07	Somewhat limited: Depth to saturated zone	0.03	Somewhat limited: Slope Depth to saturated zone	0.12 0.07
801D: Orthents, silty----	Very limited: Slope Depth to saturated zone	1.00 0.07	Very limited: Slope Depth to saturated zone	1.00 0.03	Very limited: Slope Depth to saturated zone	1.00 0.07
802B: Orthents, loamy----	Somewhat limited: Restricted permeability	0.21	Somewhat limited: Restricted permeability	0.21	Somewhat limited: Restricted permeability Slope	0.21 0.12
802D: Orthents, loamy----	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
864, 865: Pits-----	Not rated		Not rated		Not rated	
867: Oil waste land-----	Not rated		Not rated		Not rated	
878C3: Coulterville-----	Very limited: Depth to saturated zone	1.00	Somewhat limited: Restricted permeability	0.96	Very limited: Depth to saturated zone	1.00
	Restricted permeability	0.96	Depth to saturated zone	0.94	Slope Restricted permeability	1.00 0.96

Table 11a.--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
878C3: Grantfork-----	Very limited: Depth to saturated zone Restricted permeability	1.00 0.21	Somewhat limited: Depth to saturated zone Restricted permeability	0.94 0.21	Very limited: Depth to saturated zone Slope Restricted permeability	1.00 1.00 0.21
880B2: Coulterville-----	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
Darmstadt-----	Very limited: Depth to saturated zone Sodium content Restricted permeability	1.00 1.00 1.00	Very limited: Sodium content Restricted permeability Depth to saturated zone	1.00 1.00 0.94	Very limited: Depth to saturated zone Sodium content Restricted permeability Slope	1.00 1.00 1.00 0.28
882B: 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
Coulterville-----	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
Darmstadt-----	Very limited: Depth to saturated zone Sodium content Restricted permeability	1.00 1.00 1.00	Very limited: Sodium content Restricted permeability Depth to saturated zone	1.00 1.00 0.94	Very limited: Depth to saturated zone Sodium content Restricted permeability Slope	1.00 1.00 1.00 0.28
885A: Virден-----	Very limited: Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.21	Very limited: Depth to saturated zone Ponding 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 Restricted permeability	1.00 0.96	Very limited: Depth to saturated zone Restricted permeability	1.00 0.96	Very limited: Depth to saturated zone Restricted permeability	1.00 0.96

Table 11a.--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
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
897D3: Bunkum-----	Somewhat limited: Depth to saturated zone Slope Restricted permeability	0.98 0.96 0.21	Somewhat limited: Slope Depth to saturated zone Restricted permeability	0.96 0.75 0.21	Very limited: Slope Depth to saturated zone Restricted permeability	1.00 0.98 0.21
Atlas-----	Very limited: Depth to saturated zone Restricted permeability Slope	1.00 1.00 0.96	Very limited: Restricted permeability Slope Depth to saturated zone	1.00 0.96 0.94	Very limited: Depth to saturated zone Slope Restricted permeability	1.00 1.00 1.00
914C3: Atlas-----	Very limited: Depth to saturated zone Restricted permeability	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 1.00
Grantfork-----	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 Slope Restricted permeability	1.00 1.00 0.96
914D3: Atlas-----	Very limited: Depth to saturated zone Restricted permeability Slope	1.00 1.00 0.96	Very limited: Restricted permeability Depth to saturated zone Slope	1.00 1.00 0.96	Very limited: Depth to saturated zone Slope Restricted permeability	1.00 1.00 1.00

Table 11a.--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
914D3: Grantfork-----	Very limited: Depth to saturated zone Slope Restricted permeability	1.00 0.96 0.21	Somewhat limited: Slope Depth to saturated zone Restricted permeability	0.96 0.94 0.21	Very limited: Depth to saturated zone Slope Restricted permeability	1.00 1.00 0.21
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
962F2: 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
967F: Hickory-----	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
Gosport-----	Very limited: Slope Restricted permeability	1.00 1.00	Very limited: Slope Restricted permeability	1.00 1.00	Very limited: Slope Restricted permeability Depth to bedrock	1.00 1.00 0.42
993A: Cowden-----	Very limited: Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.96	Very limited: Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.96	Very limited: Depth to saturated zone Ponding Restricted permeability	1.00 1.00 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
1070L: Beaucoup, undrained	Very limited: Depth to saturated zone Flooding Ponding Restricted permeability	1.00 1.00 1.00 0.26	Very limited: Ponding Depth to saturated zone Restricted permeability	1.00 1.00 0.26	Very limited: Depth to saturated zone Ponding Flooding Restricted permeability	1.00 1.00 0.60 0.26

Table 11a.--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
2071L:						
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 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
Aquents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2079D:						
Menfro-----	Somewhat limited: Slope	0.63	Somewhat limited: Slope	0.63	Very limited: Slope	1.00
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2113B:						
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 0.50
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2122B:						
Colp-----	Very limited: Flooding Restricted permeability Depth to saturated zone	1.00 0.96 0.81	Somewhat limited: Restricted permeability Depth to saturated zone	0.96 0.48	Somewhat limited: Restricted permeability Depth to saturated zone Flooding Slope	0.96 0.81 0.60 0.50
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2183A:						
Shaffton-----	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
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	

Table 11a.--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
2284A:						
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
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2304B:						
Landes-----	Very limited: Flooding	1.00	Not limited		Somewhat limited: Flooding Slope Gravel content	0.60 0.50 0.22
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2384B:						
Edwardsville-----	Somewhat limited: Depth to saturated zone	0.98	Somewhat limited: Depth to saturated zone	0.75	Somewhat limited: Depth to saturated zone Slope	0.98 0.12
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2477B:						
Winfield-----	Not limited		Not limited		Somewhat limited: Slope	0.88
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2592A:						
Nameoki-----	Very limited: Flooding Restricted permeability Too clayey Depth to saturated zone	1.00 1.00 1.00 0.98	Very limited: Restricted permeability Too clayey Depth to saturated zone	1.00 1.00 0.75	Very limited: Restricted permeability Too clayey Depth to saturated zone Flooding	1.00 1.00 0.98 0.60
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2741B:						
Oakville-----	Very limited: Too sandy	1.00	Very limited: Too sandy	1.00	Very limited: Too sandy Slope	1.00 0.50
Psamments-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	

Table 11a.--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
3038B: Rocher-----	Very limited: Flooding	1.00	Somewhat limited: Flooding	0.40	Very limited: Flooding Slope	1.00 0.50
3070A: 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 Flooding Restricted permeability	1.00 1.00 0.40 0.21	Very limited: Depth to saturated zone Flooding Ponding Restricted permeability	1.00 1.00 1.00 0.21
3070L: Beaucoup-----	Very limited: Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Flooding	1.00 1.00 0.40	Very limited: Depth to saturated zone Flooding Ponding	1.00 1.00 1.00
3071L: 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 Flooding	1.00 1.00 1.00 1.00 0.40	Very limited: Depth to saturated zone Flooding Ponding Restricted permeability Too clayey	1.00 1.00 1.00 1.00 1.00
3333A: Wakeland-----	Very limited: Depth to saturated zone Flooding	1.00 1.00	Somewhat limited: Depth to saturated zone Flooding	0.94 0.40	Very limited: Depth to saturated zone Flooding	1.00 1.00
3334A: Birds-----	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 Flooding Restricted permeability	1.00 1.00 0.40 0.21	Very limited: Depth to saturated zone Flooding Ponding Restricted permeability	1.00 1.00 1.00 0.21
3336A: Wilbur-----	Very limited: Flooding Depth to saturated zone	1.00 0.77	Somewhat limited: Depth to saturated zone Flooding	0.43 0.40	Very limited: Flooding Depth to saturated zone	1.00 0.77
3415A: Orion-----	Very limited: Depth to saturated zone Flooding	1.00 1.00	Somewhat limited: Depth to saturated zone Flooding	0.94 0.40	Very limited: Depth to saturated zone Flooding	1.00 1.00

Table 11a.--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
3428A: Coffeen-----	Very limited: Flooding Depth to saturated zone	1.00 0.98	Somewhat limited: Depth to saturated zone Flooding	0.75 0.40	Very limited: Flooding Depth to saturated zone	1.00 0.98
3451A: Lawson-----	Very limited: Flooding Depth to saturated zone	1.00 0.98	Somewhat limited: Depth to saturated zone Flooding	0.75 0.40	Very limited: Flooding Depth to saturated zone	1.00 0.98
3592A: Nameoki-----	Very limited: Flooding Restricted permeability Depth to saturated zone	1.00 1.00 0.98	Very limited: Restricted permeability Depth to saturated zone Flooding	1.00 0.75 0.40	Very limited: Flooding Restricted permeability Depth to saturated zone	1.00 1.00 0.98
7037A: Worthen-----	Very limited: Flooding	1.00	Not limited		Not limited	
7037B: Worthen-----	Very limited: Flooding	1.00	Not limited		Somewhat limited: Slope	0.28
7053B: Bloomfield-----	Very limited: Flooding Too sandy	1.00 0.50	Somewhat limited: Too sandy	0.50	Somewhat limited: Slope Too sandy	0.50 0.50
7075B: Drury-----	Very limited: Flooding	1.00	Not limited		Somewhat limited: Slope	0.28
7081A: Littleton-----	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
7122B: Colp-----	Very limited: Flooding Restricted permeability Depth to saturated zone	1.00 0.96 0.81	Somewhat limited: Restricted permeability Depth to saturated zone	0.96 0.48	Somewhat limited: Restricted permeability Depth to saturated zone Slope	0.96 0.81 0.50
7122C: Colp-----	Very limited: Flooding Restricted permeability Depth to saturated zone	1.00 0.96 0.81	Somewhat limited: Restricted permeability Depth to saturated zone	0.96 0.48	Very limited: Slope Restricted permeability Depth to saturated zone	1.00 0.96 0.81

Table 11a.--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
7150A: Onarga-----	Very limited: Flooding	1.00	Not limited		Not limited	
7151A: Ridgeville-----	Very limited: Flooding Depth to saturated zone	1.00 0.39	Somewhat limited: Depth to saturated zone	0.19	Somewhat limited: Depth to saturated zone	0.39
7338A: 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	1.00 1.00
7430A: Raddle-----	Very limited: Flooding	1.00	Not limited		Not limited	
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	0.50
7445A: Newhaven-----	Very limited: Flooding Depth to saturated zone	1.00 0.39	Somewhat limited: Depth to saturated zone	0.19	Somewhat limited: Depth to saturated zone	0.39
7741B: Oakville-----	Very limited: Flooding Too sandy	1.00 1.00	Very limited: Too sandy	1.00	Very limited: Too sandy Slope	1.00 0.50
7741C: Oakville-----	Very limited: Flooding Too sandy	1.00 1.00	Very limited: Too sandy	1.00	Very limited: Too sandy Slope	1.00 1.00
8038B: Rocher-----	Very limited: Flooding	1.00	Not limited		Somewhat limited: Flooding Slope	0.60 0.50
8070A: Beaucoup-----	Very limited: Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Ponding Flooding	1.00 1.00 0.60

Table 11a.--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
8071L: 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
8078A: Arenzville-----	Very limited: Flooding	1.00	Not limited		Somewhat limited: Flooding	0.60
8180A: Dupo-----	Very limited: Depth to saturated zone Flooding Restricted permeability	1.00 1.00 0.96	Somewhat limited: Restricted permeability Depth to saturated zone	0.96 0.94	Very limited: Depth to saturated zone Restricted permeability Flooding	1.00 0.96 0.60
8183A: Shaffton-----	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
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
8302A: Ambraw-----	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 1.00 0.60 0.21
8304B: Landes-----	Very limited: Flooding	1.00	Not limited		Somewhat limited: Flooding Slope Gravel content	0.60 0.50 0.22
8331A: Haymond-----	Very limited: Flooding	1.00	Not limited		Somewhat limited: Flooding	0.60
8333A: Wakeland-----	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 Flooding	1.00 0.60

Table 11a.--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
8334A: Birds-----	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
8415A: Orion-----	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 Flooding	1.00 0.60
8591A: Fults-----	Very limited: Depth to saturated zone Flooding Ponding Restricted permeability Too clayey	1.00 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 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
8592A: Nameoki-----	Very limited: Flooding Restricted permeability Too clayey Depth to saturated zone	1.00 1.00 1.00 1.00 0.98	Very limited: Restricted permeability Too clayey Depth to saturated zone	1.00 1.00 1.00 0.75	Very limited: Restricted permeability Too clayey Depth to saturated zone Flooding	1.00 1.00 1.00 0.98 0.60
8674A: Dozaville-----	Very limited: Flooding	1.00	Not limited		Somewhat limited: Flooding	0.60
8831A: Fluvaquents, clayey	Very limited: Depth to saturated zone Flooding Ponding Restricted permeability Too clayey	1.00 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 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 11b.--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
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
31A: Pierron-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
35F: Bold-----	Very limited: Water erosion Slope	1.00 1.00	Very limited: Water erosion Slope	1.00 0.04	Very limited: Slope	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
50A: Viriden-----	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		
79B: Menfro-----	Not limited		Not limited		Not limited	
79C2: Menfro-----	Not limited		Not limited		Not limited	
79C3: 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
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

Table 11b.--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
79F3: Menfro-----	Very limited: Water erosion Slope	1.00 1.00	Very limited: Water erosion Slope	1.00 0.04	Very limited: Slope	1.00
79G: Menfro-----	Very limited: Slope Water erosion	1.00 1.00	Very limited: Water erosion Slope	1.00 1.00	Very limited: Slope	1.00
90A: Bethalto-----	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.94
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
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
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
165A: Weir-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
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
283B: Downsouth-----	Not limited		Not limited		Not limited	
283C2: Downsouth-----	Not limited		Not limited		Not limited	
384A: Edwardsville-----	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 11b.--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
385A: Mascoutah-----	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
438B: Aviston-----	Not limited		Not limited		Not limited	
438C2: Aviston-----	Not limited		Not limited		Not limited	
441B: Wakenda-----	Not limited		Not limited		Not limited	
441C2: Wakenda-----	Not limited		Not limited		Not limited	
474A: 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
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	
477D3: Winfield-----	Very limited: Water erosion	1.00	Very limited: Water erosion	1.00	Somewhat limited: Slope	0.96
491B: Ruma-----	Not limited		Not limited		Not limited	
491C2: Ruma-----	Not limited		Not limited		Not limited	
491D2: Ruma-----	Very limited: Water erosion	1.00	Very limited: Water erosion	1.00	Somewhat limited: Slope	0.96
491D3: Ruma-----	Very limited: Water erosion	1.00	Very limited: Water erosion	1.00	Somewhat limited: Slope	0.96
515B3: 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 11b.--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
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
515D3: Bunkum-----	Very limited: Water erosion Depth to saturated zone	1.00 0.44	Very limited: Water erosion Depth to saturated zone	1.00 0.44	Somewhat limited: Slope Depth to saturated zone	0.96 0.75
517A: Marine-----	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.94
517B: Marine-----	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.94
533: Urban land-----	Not rated		Not rated		Not rated	
536: Dumps-----	Not rated		Not rated		Not rated	
581B2: Tamalco-----	Not limited		Not limited		Very limited: Sodium content	1.00
582B: Homen-----	Not limited		Not limited		Not limited	
582C2: Homen-----	Not limited		Not limited		Not limited	
585F: Negley-----	Very limited: Slope	1.00	Somewhat limited: Slope	0.04	Very limited: Slope	1.00
630D3: Navlys-----	Very limited: Water erosion	1.00	Very limited: Water erosion	1.00	Somewhat limited: Slope	0.96
657A: Burksville-----	Very limited: Depth to saturated zone Ponding	1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00
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

Table 11b.--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
702F:						
Ruma-----	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
703A:						
Pierron-----	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
Burksville-----	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
801B:						
Orthents, silty----	Not limited		Not limited		Somewhat limited: Depth to saturated zone	0.03
801D:						
Orthents, silty----	Very limited: Water erosion Slope	1.00 0.50	Very limited: Water erosion	1.00	Very limited: Slope Depth to saturated zone	1.00 0.03
802B:						
Orthents, loamy----	Not limited		Not limited		Not limited	
802D:						
Orthents, loamy----	Somewhat limited: Slope	0.50	Not limited		Very limited: Slope	1.00
864, 865:						
Pits-----	Not rated		Not rated		Not rated	
867:						
Oil waste land-----	Not rated		Not rated		Not rated	
878C3:						
Coulterville-----	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.94
Grantfork-----	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.94
880B2:						
Coulterville-----	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.94
Darmstadt-----	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.86	Very limited: Sodium content Depth to saturated zone	1.00 0.94

Table 11b.--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
882B:						
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
Coulterville-----	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.94
Darmstadt-----	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.86	Very limited: Sodium content Depth to saturated zone	1.00 0.94
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: Depth to saturated zone Ponding	1.00 1.00
Fosterburg-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	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
897D3:						
Bunkum-----	Very limited: Water erosion Depth to saturated zone	1.00 0.44	Very limited: Water erosion Depth to saturated zone	1.00 0.44	Somewhat limited: Slope Depth to saturated zone	0.96 0.75
Atlas-----	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Slope Depth to saturated zone	0.96 0.94
914C3:						
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
Grantfork-----	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 11b.--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
914D3:						
Atlas-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone Slope	1.00 0.96
Grantfork-----	Very limited: Water erosion Depth to saturated zone	1.00 0.86	Very limited: Water erosion Depth to saturated zone	1.00 0.86	Somewhat limited: Slope Depth to saturated zone	0.96 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
962F2:						
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
967F:						
Hickory-----	Very limited: Slope	1.00	Somewhat limited: Slope	0.04	Very limited: Slope	1.00
Gosport-----	Very limited: Water erosion Slope	1.00 1.00	Very limited: Water erosion Slope	1.00 0.04	Very limited: Slope Depth to bedrock	1.00 0.42
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: Depth to saturated zone Ponding	1.00 1.00
Piassa-----	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
1070L:						
Beaucoup, undrained	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 Flooding	1.00 1.00 0.60
2071L:						
Darwin-----	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

Table 11b.--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
2071L:						
Aquents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2079D:						
Menfro-----	Very limited: Water erosion	1.00	Very limited: Water erosion	1.00	Somewhat limited: Slope	0.63
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2113B:						
Ocohee-----	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.94
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2122B:						
Colp-----	Somewhat limited: Depth to saturated zone	0.11	Somewhat limited: Depth to saturated zone	0.11	Somewhat limited: Flooding Depth to saturated zone	0.60 0.48
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2183A:						
Shaffton-----	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
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2284A:						
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
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2304B:						
Landes-----	Not limited		Not limited		Somewhat limited: Flooding	0.60
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	

Table 11b.--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
2384B:						
Edwardsville-----	Somewhat limited: Depth to saturated zone	0.44	Somewhat limited: Depth to saturated zone	0.44	Somewhat limited: Depth to saturated zone	0.75
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2477B:						
Winfield-----	Not limited		Not limited		Not limited	
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2592A:						
Nameoki-----	Very limited: Too clayey Depth to saturated zone	1.00 0.44	Very limited: Too clayey Depth to saturated zone	1.00 0.44	Very limited: Too clayey Depth to saturated zone Flooding	1.00 0.75 0.60
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2741B:						
Oakville-----	Very limited: Too sandy	1.00	Very limited: Too sandy	1.00	Somewhat limited: Droughty	0.71
Psammets-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
3038B:						
Rocher-----	Somewhat limited: Flooding	0.40	Somewhat limited: Flooding	0.40	Very limited: Flooding	1.00
3070A:						
Beaucoup-----	Very limited: Depth to saturated zone Ponding Flooding	1.00 1.00 1.00 0.40	Very limited: Depth to saturated zone Ponding Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Flooding Depth to saturated zone	1.00 1.00 1.00 1.00
3070L:						
Beaucoup-----	Very limited: Depth to saturated zone Ponding Flooding	1.00 1.00 1.00 0.40	Very limited: Depth to saturated zone Ponding Flooding	1.00 1.00 1.00 0.40	Very limited: Ponding Flooding Depth to saturated zone	1.00 1.00 1.00 1.00
3071L:						
Darwin-----	Very limited: Depth to saturated zone Ponding Too clayey Flooding	1.00 1.00 1.00 1.00 0.40	Very limited: Depth to saturated zone Ponding Too clayey Flooding	1.00 1.00 1.00 1.00 0.40	Very limited: Ponding Flooding Depth to saturated zone Too clayey	1.00 1.00 1.00 1.00 1.00

Table 11b.--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
3333A: Wakeland-----	Somewhat limited: Depth to saturated zone Flooding	0.86 0.40	Somewhat limited: Depth to saturated zone Flooding	0.86 0.40	Very limited: Flooding Depth to saturated zone	1.00 0.94
3334A: Birds-----	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
3336A: Wilbur-----	Somewhat limited: Flooding Depth to saturated zone	0.40 0.08	Somewhat limited: Flooding Depth to saturated zone	0.40 0.08	Very limited: Flooding Depth to saturated zone	1.00 0.43
3415A: Orion-----	Somewhat limited: Depth to saturated zone Flooding	0.86 0.40	Somewhat limited: Depth to saturated zone Flooding	0.86 0.40	Very limited: Flooding Depth to saturated zone	1.00 0.94
3428A: Coffeen-----	Somewhat limited: Depth to saturated zone Flooding	0.44 0.40	Somewhat limited: Depth to saturated zone Flooding	0.44 0.40	Very limited: Flooding Depth to saturated zone	1.00 0.75
3451A: Lawson-----	Somewhat limited: Depth to saturated zone Flooding	0.44 0.40	Somewhat limited: Depth to saturated zone Flooding	0.44 0.40	Very limited: Flooding Depth to saturated zone	1.00 0.75
3592A: Nameoki-----	Somewhat limited: Depth to saturated zone Flooding	0.44 0.40	Somewhat limited: Depth to saturated zone Flooding	0.44 0.40	Very limited: Flooding Depth to saturated zone	1.00 0.75
7037A: Worthen-----	Not limited		Not limited		Not limited	
7037B: Worthen-----	Not limited		Not limited		Not limited	
7053B: Bloomfield-----	Somewhat limited: Too sandy	0.50	Somewhat limited: Too sandy	0.50	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

Table 11b.--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
7122B: Colp-----	Somewhat limited: Depth to saturated zone	0.11	Somewhat limited: Depth to saturated zone	0.11	Somewhat limited: Depth to saturated zone	0.48
7122C: Colp-----	Somewhat limited: Depth to saturated zone	0.11	Somewhat limited: Depth to saturated zone	0.11	Somewhat limited: Depth to saturated zone	0.48
7150A: Onarga-----	Not limited		Not limited		Not limited	
7151A: Ridgeville-----	Not limited		Not limited		Somewhat limited: Depth to saturated zone	0.19
7338A: 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
7430A: Raddle-----	Not limited		Not limited		Not limited	
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	
7445A: Newhaven-----	Not limited		Not limited		Somewhat limited: Depth to saturated zone	0.19
7741B: Oakville-----	Very limited: Too sandy	1.00	Very limited: Too sandy	1.00	Somewhat limited: Droughty	0.46
7741C: Oakville-----	Very limited: Too sandy	1.00	Very limited: Too sandy	1.00	Somewhat limited: Droughty	0.46
8038B: Rocher-----	Not limited		Not limited		Somewhat limited: Flooding	0.60
8070A: Beaucoup-----	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 Flooding	1.00 1.00 0.60

Table 11b.--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
8071L: Darwin-----	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
8078A: Arenzville-----	Not limited		Not limited		Somewhat limited: Flooding	0.60
8180A: Dupo-----	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone Flooding	0.94 0.60
8183A: Shaffton-----	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
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
8302A: Ambraw-----	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 Flooding	1.00 1.00 0.60
8304B: Landes-----	Not limited		Not limited		Somewhat limited: Flooding	0.60
8331A: Haymond-----	Not limited		Not limited		Somewhat limited: Flooding	0.60
8333A: Wakeland-----	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone Flooding	0.94 0.60
8334A: Birds-----	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 Flooding	1.00 1.00 0.60

Table 11b.--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
8415A: Orion-----	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone	0.86	Somewhat limited: Depth to saturated zone Flooding	0.94 0.60
8591A: Fults-----	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
8592A: Nameoki-----	Very limited: Too clayey Depth to saturated zone	1.00 0.44	Very limited: Too clayey Depth to saturated zone	1.00 0.44	Very limited: Too clayey Depth to saturated zone Flooding	1.00 0.75 0.60
8674A: Dozaville-----	Not limited		Not limited		Somewhat limited: Flooding	0.60
8831A: Fluvaquents, clayey	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

Table 12.--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
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.
31A: Pierron-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
35F: Bold-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
46A: Herrick-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
50A: Virden-----	Fair	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
79B: Menfro-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
79C2: Menfro-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
79C3: Menfro-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
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.
79F: Menfro-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
79F3: Menfro-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
79G: Menfro-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
90A: Bethalto-----	Poor	Poor	Poor	Poor	Poor	Fair	Fair	Good	Good	Fair.
113A: Oconee-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

Table 12.--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
113B: Oconee-----	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.
165A: Weir-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
267A: Caseyville-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
267B: Caseyville-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
283B: Downsouth-----	Fair	Fair	Fair	Poor	Fair	Poor	Poor	Good	Good	Poor.
283C2: Downsouth-----	Fair	Fair	Fair	Poor	Fair	Poor	Poor	Good	Good	Poor.
384A: Edwardsville-----	Poor	Poor	Poor	Poor	Poor	Fair	Fair	Good	Poor	Fair.
385A: Mascoutah-----	Poor	Poor	Poor	Poor	Poor	Good	Good	Good	Poor	Good.
438B: Aviston-----	Fair	Fair	Fair	Poor	Fair	Poor	Poor	Good	Good	Poor.
438C2: Aviston-----	Fair	Fair	Fair	Poor	Fair	Poor	Poor	Good	Good	Poor.
441B: Wakenda-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
441C2: Wakenda-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
474A: Piasa-----	Poor	Fair	Very poor.	Fair	Fair	Good	Good	Poor	Fair	Good.
477B: Winfield-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
477B3: Winfield-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

Table 12.--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
477C2: Winfield-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
477C3: 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.
491B: Ruma-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
491C2: Ruma-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
491D2: Ruma-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
491D3: Ruma-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
515B3: 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.
515D3: Bunkum-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
517A: Marine-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
517B: Marine-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
533: Urban land.										
536: Dumps.										
581B2: Tamalco-----	Good	Good	Fair	Good	Good	Poor	Poor	Good	Good	Poor.
582B: Homen-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
582C2: Homen-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 12.--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
585F: Negley-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
630D3: Navlyns-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
657A: Burksville-----	Fair	Fair	Poor	Fair	Fair	Good	Good	Fair	Fair	Good.
701F: Menfro-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Hickory-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
702F: Ruma-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Hickory-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
703A: Pierron-----	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Fair	Good.
Burksville-----	Poor	Fair	Poor	Fair	Fair	Good	Good	Poor	Fair	Good.
801B: Orthents, silty---	Good	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
801D: Orthents, silty---	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
802B: Orthents, loamy---	Good	Fair	Good	Good	Good	Poor	Poor	Good	Good	Poor.
802D: Orthents, loamy---	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
864, 865: Pits.										
867: Oil waste land.										
878C3: Coulterville-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Grantfork-----	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
880B2: Coulterville-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Darmstadt-----	Fair	Good	Very poor.	Good	Good	Poor	Very poor.	Fair	Fair	Very poor.

Table 12.--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
882B:										
Oconee-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Coulterville-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Darmstadt-----	Fair	Good	Very poor.	Good	Good	Poor	Very poor.	Fair	Fair	Very poor.
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.
897D3:										
Bunkum-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Atlas-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
914C3:										
Atlas-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Grantfork-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
914D3:										
Atlas-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Grantfork-----	Fair	Good	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
962D2:										
Sylvan-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Bold-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
962F2:										
Sylvan-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Bold-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
967F:										
Hickory-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.

Table 12.--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
967F: Gosport-----	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	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.
1070L: Beaucoup, undrained-----	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good.
2071L: Darwin-----	Poor	Poor	Fair	Poor	Poor	Good	Good	Poor	Poor	Good.
Aquents. Urban land.										
2079D: Menfro-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Orthents. Urban land.										
2113B: Oconee-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Orthents. Urban land.										
2122B: Colp-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Orthents. Urban land.										
2183A: Shaffton-----	Good	Good	Good	Good	Fair	Good	Good	Good	Good	Good.
Fluvents. Urban land.										
2284A: Tice-----	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Fluvents. Urban land.										
2304B: Landes-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 12.--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
2304B: Fluvents. Urban land.										
2384B: Edwardsville----- Orthents. Urban land.	Poor	Poor	Poor	Poor	Poor	Fair	Poor	Good	Poor	Poor.
2477B: Winfield----- Orthents. Urban land.	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
2592A: Nameoki----- Fluvents. Urban land.	Fair	Good	Fair	Good	Good	Poor	Good	Fair	Good	Fair.
2741B: Oakville----- Psamments. Urban land.	Poor	Poor	Fair	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
3038B: Rocher----- 3070A: Beaucoup----- 3070L: Beaucoup----- 3071L: Darwin----- 3333A: Wakeland----- 3334A: Birds----- 3336A: Wilbur----- 3415A: Orion----- 3428A: Coffeen-----	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
	Poor	Poor	Fair	Poor	Poor	Good	Good	Poor	Poor	Good.
	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
	Good	Fair	Good	Good	Fair	Good	Good	Good	Good	Good.
	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
	Good	Good	Good	Good	Good	Good	Fair	Good	Good	Good.
	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.

Table 12.--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
3451A: Lawson-----	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
3592A: Nameoki-----	Fair	Good	Fair	Good	Good	Poor	Good	Fair	Good	Fair.
7037A: Worthen-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7037B: Worthen-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7053B: Bloomfield-----	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	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.
7122B: Colp-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
7122C: Colp-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7150A: Onarga-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
7151A: Ridgeville-----	Good	Very poor.	Good	Poor	Poor	Fair	Poor	Poor	Very poor.	Poor.
7338A: Hurst-----	Fair	Good	Good	Good	Fair	Fair	Fair	Good	Good	Fair.
7430A: Raddle-----	Good	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	Poor	Good	Good	Poor.
7445A: Newhaven-----	Good	Good	Good	Good	Fair	Fair	Fair	Good	Good	Fair.
7741B: Oakville-----	Poor	Poor	Fair	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
7741C: Oakville-----	Poor	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.

Table 13.--Hydric Soils

(See text for definitions of hydric qualities)

Map symbol and map unit name	Component	Hydric status	Local landform
8D3: Hickory clay loam, 10 to 18 percent slopes, severely eroded	Hickory	No	ground moraine
8F: Hickory silt loam, 18 to 35 percent slopes	Hickory	No	ground moraine
31A: Pierron silt loam, 0 to 2 percent slopes	Pierron	Yes	ground moraine, depression
	Burksville	Yes	ground moraine
35F: Bold silt loam, 18 to 35 percent slopes	Bold	No	loess bluff
46A: Herrick silt loam, 0 to 2 percent slopes	Herrick	No	ground moraine
	Virden	Yes	depression
	Piasa	Yes	depression
	Cowden	Yes	depression
50A: Virden silt loam, 0 to 2 percent slopes	Virden	Yes	ground moraine
79B: Menfro silt loam, 2 to 5 percent slopes	Menfro	No	loess hill
79C2: Menfro silt loam, 5 to 10 percent slopes, eroded	Menfro	No	loess hill
79C3: Menfro silty clay loam, 5 to 10 percent slopes, severely eroded	Menfro	No	loess hill
79D2: Menfro silt loam, 10 to 18 percent slopes, eroded	Menfro	No	loess hill
79D3: Menfro silty clay loam, 10 to 18 percent slopes, severely eroded	Menfro	No	loess hill

Table 13.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
79F: Menfro silt loam, 18 to 35 percent slopes	Menfro	No	loess hill
79F3: Menfro silty clay loam, 18 to 35 percent slopes, severely eroded	Menfro	No	loess hill
79G: Menfro silt loam, 35 to 60 percent slopes	Menfro	No	loess hill
90A: Bethalto silt loam, 0 to 2 percent slopes	Bethalto	No	ground moraine
	Viriden	Yes	depression
	Mascoutah	Yes	depression
113A: Oconee silt loam, 0 to 2 percent slopes	Oconee	No	ground moraine
	Cowden	Yes	depression
	Piasa	Yes	depression
113B: Oconee silt loam, 2 to 5 percent slopes	Oconee	No	ground moraine
	Cowden	Yes	depression
	Piasa	Yes	depression
119C3: Elco silty clay loam, 5 to 10 percent slopes, severely eroded	Elco	No	ground moraine
119D2: Elco silt loam, 10 to 18 percent slopes, eroded	Elco	No	ground moraine
119D3: Elco silty clay loam, 10 to 18 percent slopes, severely eroded	Elco	No	ground moraine
165A: Weir silt loam, 0 to 2 percent slopes	Weir	Yes	ground moraine, depression
267A: Caseyville silt loam, 0 to 2 percent slopes	Caseyville	No	ground moraine
	Weir	Yes	depression

Table 13.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
267B: Caseyville silt loam, 2 to 5 percent slopes	Caseyville	No	ground moraine
	Weir	Yes	depression
283B: Downsouth silt loam, 2 to 5 percent slopes	Downsouth	No	ground moraine
	Mascoutah	Yes	depression
283C2: Downsouth silt loam, 5 to 10 percent slopes, eroded	Downsouth	No	ground moraine
	Mascoutah	Yes	depression
384A: Edwardsville silt loam, 0 to 2 percent slopes	Edwardsville	No	ground moraine
	Mascoutah	Yes	depression
385A: Mascoutah silty clay loam, 0 to 2 percent slopes	Mascoutah	Yes	ground moraine
438B: Aviston silt loam, 2 to 5 percent slopes	Aviston	No	ground moraine
	Viriden	Yes	depression
438C2: Aviston silt loam, 5 to 10 percent slopes, eroded	Aviston	No	ground moraine
	Viriden	Yes	depression
441B: Wakenda silt loam, 2 to 5 percent slopes	Wakenda	No	ground moraine
441C2: Wakenda silt loam, 5 to 10 percent slopes, eroded	Wakenda	No	ground moraine
474A: Piasa silt loam, 0 to 2 percent slopes	Piasa	Yes	depression, ground moraine
	Cowden	Yes	ground moraine, depression
	Viriden	Yes	depression
477B: Winfield silt loam, 2 to 5 percent slopes	Winfield	No	loess hill, ground moraine

Table 13.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
477B3: Winfield silty clay loam, 2 to 5 percent slopes, severely eroded	Winfield	No	loess hill, ground moraine
477C2: Winfield silt loam, 5 to 10 percent slopes, eroded	Winfield	No	loess hill, ground moraine
477C3: Winfield silty clay loam, 5 to 10 percent slopes, severely eroded	Winfield	No	loess hill, ground moraine
477D3: Winfield silty clay loam, 10 to 18 percent slopes, severely eroded	Winfield	No	loess hill, ground moraine
491B: Ruma silt loam, 2 to 5 percent slopes	Ruma	No	ground moraine
491C2: Ruma silt loam, 5 to 10 percent slopes, eroded	Ruma	No	ground moraine
491D2: Ruma silt loam, 10 to 18 percent slopes, eroded	Ruma	No	ground moraine
491D3: Ruma silty clay loam, 10 to 18 percent slopes, severely eroded	Ruma	No	ground moraine
515B3: Bunkum silty clay loam, 2 to 5 percent slopes, severely eroded	Bunkum	No	ground moraine
515C3: Bunkum silty clay loam, 5 to 10 percent slopes, severely eroded	Bunkum	No	ground moraine
515D3: Bunkum silty clay loam, 10 to 18 percent slopes, severely eroded	Bunkum	No	ground moraine

Table 13.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
517A: Marine silt loam, 0 to 2 percent slopes	Marine	No	ground moraine
	Pierron	Yes	depression
517B: Marine silt loam, 2 to 5 percent slopes	Marine	No	ground moraine
	Pierron	Yes	depression
533: Urban land	Urban land	No	---
536: Dumps	Dumps	No	---
581B2: Tamalco silt loam, 2 to 5 percent slopes, eroded	Tamalco	No	ground moraine
	Cowden	Yes	depression
	Burksville	Yes	depression
582B: Homen silt loam, 2 to 5 percent slopes	Homen	No	ground moraine
582C2: Homen silt loam, 5 to 10 percent slopes, eroded	Homen	No	ground moraine
585F: Negley loam, 18 to 35 percent slopes	Negley	No	crevasse filling
630D3: Navlys silty clay loam, 10 to 18 percent slopes, severely eroded	Navlys	No	loess hill
657A: Burksville silt loam, 0 to 2 percent slopes	Burksville	Yes	ground moraine
	Pierron	Yes	ground moraine, depression
701F: Menfro-Hickory silt loams, 18 to 35 percent slopes	Menfro	No	ground moraine
	Hickory	No	ground moraine
702F: Ruma-Hickory silt loams, 18 to 35 percent slopes	Ruma	No	ground moraine
	Hickory	No	ground moraine

Table 13.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
703A:			
Pierron-Burksville silt loams, 0 to 2 percent slopes	Pierron	Yes	ground moraine
	Burksville	Yes	ground moraine
801B:			
Orthents, silty, undulating	Orthents, silty	No	---
801D:			
Orthents, silty, hilly	Orthents, silty	No	---
802B:			
Orthents, loamy, undulating	Orthents, loamy	No	---
802D:			
Orthents, loamy, hilly	Orthents, loamy	No	---
864:			
Pits, quarries	Pits, quarries	No	---
865:			
Pits, gravel	Pits, gravel	No	---
867:			
Oil waste land	Oil waste land	No	---
878C3:			
Coulterville-Grantfork silty clay loams, 5 to 10 percent slopes, severely eroded	Coulterville	No	ground moraine
	Grantfork	No	ground moraine
880E2:			
Coulterville-Darmstadt silt loams, 2 to 5 percent slopes, eroded	Coulterville	No	ground moraine
	Darmstadt	No	ground moraine
882B:			
Oconee-Coulterville-Darmstadt silt loams, 2 to 5 percent slopes	Oconee	No	ground moraine
	Coulterville	No	ground moraine
	Darmstadt	No	ground moraine
	Burksville	Yes	ground moraine
	Cowden	Yes	depression
	Piasa	Yes	depression

Table 13.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
885A: Viriden-Fosterburg silt loams, 0 to 2 percent slopes	Viriden	Yes	ground moraine, depression
	Fosterburg	Yes	ground moraine, depression
894A: Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes	Herrick	No	ground moraine
	Biddle	No	ground moraine
	Piasa	Yes	ground moraine, depression
897D3: Bunkum-Atlas silty clay loams, 10 to 18 percent slopes, severely eroded	Bunkum	No	ground moraine
	Atlas	No	ground moraine
914C3: Atlas-Grantfork silty clay loams, 5 to 10 percent slopes, severely eroded	Atlas	No	ground moraine
	Grantfork	No	ground moraine
914D3: Atlas-Grantfork silty clay loams, 10 to 18 percent slopes, severely eroded	Atlas	No	ground moraine
	Grantfork	No	ground moraine
962D2: Sylvan-Bold silt loams, 10 to 18 percent slopes, eroded	Sylvan	No	loess bluff
	Bold	No	loess bluff
962F2: Sylvan-Bold silt loams, 18 to 35 percent slopes, eroded	Sylvan	No	loess bluff
	Bold	No	loess bluff
967F: Hickory-Gosport silt loams, 18 to 35 percent slopes	Hickory	No	ground moraine
	Gosport	No	ground moraine
993A: Cowden-Piasa silt loams, 0 to 2 percent slopes	Cowden	Yes	ground moraine, depression
	Piasa	Yes	ground moraine, depression

Table 13.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
1070L: Beaucoup silty clay loam, undrained, 0 to 2 percent slopes, occasionally flooded, long duration	Beaucoup, undrained	Yes	flood plain
2071L: Darwin-Aquents-Urban land complex, 0 to 2 percent slopes, occasionally flooded, long duration	Darwin	Yes	flood plain
	Aquents	Yes	flood plain
	Urban land	No	---
2079D: Menfro-Orthents-Urban land complex, 8 to 15 percent slopes	Menfro	No	loess hill
	Orthents	No	loess hill
	Urban land	No	---
2113B: Oconee-Orthents-Urban land complex, 2 to 5 percent slopes	Oconee	No	ground moraine
	Orthents	No	ground moraine
	Urban land	No	---
	Cowden	Yes	depression
	Piasa	Yes	depression
2122B: Colp-Orthents-Urban land complex, 2 to 5 percent slopes, rarely flooded	Colp	No	lake plain
	Orthents	No	lake plain
	Urban land	No	---
2183A: Shaffton-Fluents-Urban land complex, 0 to 2 percent slopes, occasionally flooded	Shaffton	No	flood plain
	Fluents	No	flood plain
	Urban land	No	---
	Ambraw	Yes	flood plain
	Fults	Yes	flood plain
2284A: Tice-Fluents-Urban land complex, 0 to 2 percent slopes, occasionally flooded	Tice	No	flood plain
	Fluents	No	flood plain
	Urban land	No	---
	Beaucoup	Yes	flood plain
	Darwin	Yes	flood plain

Table 13.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
2304B:			
Landes-Fluents-Urban land complex, 2 to 5 percent slopes, occasionally flooded	Landes	No	flood plain
	Fluents	No	flood plain
	Urban land	No	---
	Beaucoup	Yes	flood plain
	Fults	Yes	flood plain
2384B:			
Edwardsville-Orthents-Urban land complex, 1 to 4 percent slopes	Edwardsville	No	ground moraine
	Orthents	No	ground moraine
	Urban land	No	---
2304B:			
Landes-Fluents-Urban land complex, 2 to 5 percent slopes, occasionally flooded	Landes	No	flood plain
	Fluents	No	flood plain
	Urban land	No	---
	Beaucoup	Yes	flood plain
	Fults	Yes	flood plain
2384B:			
Edwardsville-Orthents-Urban land complex, 1 to 4 percent slopes	Edwardsville	No	ground moraine
	Orthents	No	ground moraine
	Urban land	No	---
2477B:			
Winfield-Orthents-Urban land complex, 2 to 8 percent slopes	Winfield	No	loess hill
	Orthents	No	loess hill
	Urban land	No	---
2592A:			
Nameoki-Fluents-Urban land complex, 0 to 2 percent slopes, occasionally flooded	Nameoki	No	flood plain
	Fluents	No	flood plain
	Urban land	No	---
	Darwin	Yes	flood plain
	Fults	Yes	flood plain
2741B:			
Oakville-Psamments-Urban land complex, 2 to 5 percent slopes, rarely flooded	Oakville	No	terrace
	Psamments	No	terrace
	Urban land	No	---
	Ambraw	Yes	flood plain

Table 13.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
3038B:			
Rocher loam, 2 to 5 percent slopes, frequently flooded	Rocher	No	flood plain
	Beaucoup	Yes	flood plain
3070A:			
Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded	Beaucoup	Yes	flood plain
3070L:			
Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration	Beaucoup	Yes	flood plain
3071L:			
Darwin silty clay, 0 to 2 percent slopes, frequently flooded, long duration	Darwin	Yes	flood plain
3333A:			
Wakeland silt loam, 0 to 2 percent slopes, frequently flooded	Wakeland	No	flood plain
	Birds	Yes	flood plain
3334A:			
Birds silt loam, 0 to 2 percent slopes, frequently flooded	Birds	Yes	flood plain
3336A:			
Wilbur silt loam, 0 to 2 percent slopes, frequently flooded	Wilbur	No	flood plain
	Birds	Yes	flood plain
3415A:			
Orion silt loam, 0 to 2 percent slopes, frequently flooded	Orion	No	flood plain
	Birds	Yes	flood plain
3428A:			
Coffeen silt loam, 0 to 2 percent slopes, frequently flooded	Coffeen	No	flood plain
	Beaucoup	Yes	flood plain
3451A:			
Lawson silt loam, 0 to 2 percent slopes, frequently flooded	Lawson	No	flood plain
	Birds	Yes	flood plain
	Beaucoup	Yes	flood plain
3592A:			
Nameoki silty clay loam, 0 to 2 percent slopes, frequently flooded	Nameoki	No	flood plain
	Fults	Yes	flood plain
	Darwin	Yes	flood plain

Table 13.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
7037A: Worthen silt loam, 0 to 2 percent slopes, rarely flooded	Worthen	No	alluvial fan, loess bluff
7037B: Worthen silt loam, 2 to 5 percent slopes, rarely flooded	Worthen	No	alluvial fan, loess bluff
7053B: Bloomfield loamy fine sand, 2 to 5 percent slopes, rarely flooded	Bloomfield	No	terrace
7075B: Drury silt loam, 2 to 5 percent slopes, rarely flooded	Drury	No	alluvial fan, loess bluff
7081A: Littleton silt loam, 0 to 2 percent slopes, rarely flooded	Littleton	No	alluvial fan, stream terrace
	Beaucoup	Yes	flood plain
7122B: Colp silt loam, 2 to 5 percent slopes, rarely flooded	Colp	No	lake plain
7122C: Colp silty clay loam, 5 to 10 percent slopes, severely eroded, rarely flooded	Colp	No	lake plain
7150A: Onarga sandy loam, 0 to 2 percent slopes, rarely flooded	Onarga	No	terrace
	Ambraw	Yes	flood plain
7151A: Ridgeville fine sandy loam, 0 to 2 percent slopes, rarely flooded	Ridgeville	No	terrace
	Ambraw	Yes	flood plain
7338A: Hurst silty clay loam, 0 to 2 percent slopes, rarely flooded	Hurst	No	lake plain
7430A: Raddle silt loam, 0 to 2 percent slopes, rarely flooded	Raddle	No	alluvial fan

Table 13.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
7432A: Geff silt loam, 0 to 2 percent slopes, rarely flooded	Geff	No	stream terrace
7434B: Ridgway silt loam, 2 to 5 percent slopes, rarely flooded	Ridgway	No	stream terrace
7445A: Newhaven loam, 0 to 2 percent slopes, rarely flooded	Newhaven	No	terrace
7741B: Oakville fine sand, 2 to 5 percent slopes, rarely flooded	Oakville	No	terrace
	Ambraw	Yes	flood plain
7741C: Oakville fine sand, 5 to 10 percent slopes, rarely flooded	Oakville	No	terrace
	Ambraw	Yes	flood plain
8038B: Rocher loam, 2 to 5 percent slopes, occasionally flooded	Rocher	No	flood plain
	Ambraw	Yes	flood plain
8070A: Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded	Beaucoup	Yes	flood plain
8071L: Darwin silty clay, 0 to 2 percent slopes, occasionally flooded, long duration	Darwin	Yes	flood plain
8078A: Arenzville silt loam, 0 to 2 percent slopes, occasionally flooded	Arenzville	No	flood plain
8180A: Dupo silt loam, 0 to 2 percent slopes, occasionally flooded	Dupo	No	flood plain
	Birds	Yes	flood plain
8183A: Shaffton clay loam, 0 to 2 percent slopes, occasionally flooded	Shaffton	No	flood plain
	Ambraw	Yes	flood plain
	Fults	Yes	flood plain

Table 13.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
8284A: Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded	Tice	No	flood plain
	Beaucoup	Yes	flood plain
	Ambraw	Yes	flood plain
8302A: Ambraw silty clay loam, 0 to 2 percent slopes, occasionally flooded	Ambraw	Yes	flood plain
8304B: Landes very fine sandy loam, 2 to 5 percent slopes, occasionally flooded	Landes	No	flood plain
	Fults	Yes	flood plain
8331A: Haymond silt loam, 0 to 2 percent slopes, occasionally flooded	Haymond	No	flood plain
8333A: Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded	Wakeland	No	flood plain
	Birds	Yes	flood plain
8334A: Birds silt loam, 0 to 2 percent slopes, occasionally flooded	Birds	Yes	flood plain
8415A: Orion silt loam, 0 to 2 percent slopes, occasionally flooded	Orion	No	flood plain
	Birds	Yes	flood plain
8591A: Fults silty clay, 0 to 2 percent slopes, occasionally flooded	Fults	Yes	flood plain
8592A: Nameoki silty clay, 0 to 2 percent slopes, occasionally flooded	Nameoki	No	flood plain
	Fults	Yes	flood plain
	Ambraw	Yes	flood plain
8674A: Dozaville silt loam, 0 to 2 percent slopes, occasionally flooded	Dozaville	No	flood plain
8831A: Fluvaquents, clayey, 0 to 2 percent slopes, occasionally flooded	Fluvaquents, clayey	Yes	flood plain

Table 14a.--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 potential 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
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
31A: Pierron-----	Very limited: Depth to saturated zone Shrink-swell Ponding	 1.00 1.00 1.00	Very limited: Depth to saturated zone Shrink-swell Ponding	 1.00 1.00 1.00	Very limited: Depth to saturated zone Shrink-swell Ponding	 1.00 1.00 1.00
35F: Bold-----	Very limited: Slope	 1.00	Very limited: Slope	 1.00	Very limited: Slope	 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
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
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	Very limited: Slope Shrink-swell	 1.00 0.50
79C3: Menfro-----	Somewhat limited: Shrink-swell	 0.50	Somewhat limited: Shrink-swell	 0.50	Very limited: Slope Shrink-swell	 1.00 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

Table 14a.--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
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
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
79F3: 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
79G: 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
90A: Bethalto-----	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
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
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 14a.--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
165A: Weir-----	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
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
283B: Downsouth-----	Somewhat limited: Shrink-swell	0.50	Somewhat limited: Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited: Shrink-swell	0.50
283C2: Downsouth-----	Somewhat limited: Shrink-swell	0.50	Somewhat limited: Depth to saturated zone Shrink-swell	0.99 0.50	Very limited: Slope Shrink-swell	1.00 0.50
384A: Edwardsville-----	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
385A: Mascoutah-----	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
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
438C2: Aviston-----	Somewhat limited: Shrink-swell	0.50	Somewhat limited: Depth to saturated zone Shrink-swell	0.99 0.50	Very limited: Slope Shrink-swell	1.00 0.50
441B: Wakenda-----	Somewhat limited: Shrink-swell	0.50	Somewhat limited: Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited: Shrink-swell	0.50

Table 14a.--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
441C2: Wakenda-----	Somewhat limited: Shrink-swell	0.50	Somewhat limited: Shrink-swell Depth to saturated zone	0.50 0.15	Very limited: Slope Shrink-swell	1.00 0.50
474A: 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
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
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	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
491B: Ruma-----	Somewhat limited: Shrink-swell	0.50	Somewhat limited: Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited: Shrink-swell	0.50
491C2: Ruma-----	Somewhat limited: Shrink-swell	0.50	Somewhat limited: Shrink-swell Depth to saturated zone	0.50 0.15	Very limited: Slope Shrink-swell	1.00 0.50
491D2: Ruma-----	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

Table 14a.--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
491D3: Ruma-----	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
515B3: 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
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
515D3: Bunkum-----	Somewhat limited: Depth to saturated zone Slope Shrink-swell	0.98 0.96 0.50	Very limited: Depth to saturated zone Slope Shrink-swell	1.00 0.96 0.50	Very limited: Slope Depth to saturated zone Shrink-swell	1.00 0.98 0.50
517A: Marine-----	Very limited: Depth to saturated zone Shrink-swell	1.00 1.00	Very limited: Depth to saturated zone Shrink-swell	1.00 0.50	Very limited: Depth to saturated zone Shrink-swell	1.00 1.00
517B: Marine-----	Very limited: Depth to saturated zone Shrink-swell	1.00 1.00	Very limited: Depth to saturated zone Shrink-swell	1.00 0.50	Very limited: Depth to saturated zone Shrink-swell	1.00 1.00
533: Urban land-----	Not rated		Not rated		Not rated	
536: Dumps-----	Not rated		Not rated		Not rated	
581B2: Tamalco-----	Somewhat limited: Shrink-swell	0.50	Somewhat limited: Depth to saturated zone Shrink-swell	0.73 0.50	Somewhat limited: Shrink-swell	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
582C2: Homen-----	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

Table 14a.--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
585F: Negley-----	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
630D3: Navlys-----	Somewhat limited: Slope Shrink-swell	0.96 0.50	Somewhat limited: Depth to saturated zone Slope	0.99 0.96	Very limited: Slope Shrink-swell	1.00 0.50
657A: Burksville-----	Very limited: Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Shrink-swell	1.00 1.00 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
702F: Ruma-----	Very limited: Slope Shrink-swell	1.00 0.50	Very limited: Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.15	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
703A: Pierron-----	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
Burksville-----	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
801B: Orthents, silty---	Somewhat limited: Shrink-swell Depth to saturated zone	0.50 0.07	Very limited: Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited: Shrink-swell Depth to saturated zone	0.50 0.07
801D: Orthents, silty---	Very limited: Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.07	Very limited: Depth to saturated zone Slope Shrink-swell	1.00 1.00 0.50	Very limited: Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.07

Table 14a.--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
802B: Orthents, loamy---	Somewhat limited: Shrink-swell	0.50	Somewhat limited: Shrink-swell Depth to saturated zone	0.50 0.24	Somewhat limited: Shrink-swell	0.50
802D: Orthents, loamy---	Very limited: Slope Shrink-swell	1.00 0.50	Very limited: Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.24	Very limited: Slope Shrink-swell	1.00 0.50
864, 865: Pits-----	Not rated		Not rated		Not rated	
867: Oil waste land----	Not rated		Not rated		Not rated	
878C3: Coulterville-----	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 1.00 0.50
Grantfork-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone Slope	1.00 1.00
880B2: Coulterville-----	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
Darmstadt-----	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
882B: 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
Coulterville-----	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
Darmstadt-----	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 14a.--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:						
Virден-----	Very limited: Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00 1.00	Very limited: Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00 1.00	Very limited: Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00 1.00
Fosterburg-----	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
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
897D3:						
Bunkum-----	Somewhat limited: Depth to saturated zone Slope Shrink-swell	0.98 0.96 0.50	Very limited: Depth to saturated zone Slope Shrink-swell	1.00 0.96 0.50	Very limited: Slope Depth to saturated zone Shrink-swell	1.00 0.98 0.50
Atlas-----	Very limited: Depth to saturated zone Shrink-swell Slope	1.00 1.00 0.96	Very limited: Depth to saturated zone Shrink-swell Slope	1.00 1.00 0.96	Very limited: Slope Depth to saturated zone Shrink-swell	1.00 1.00 1.00
914C3:						
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 1.00 0.97
Grantfork-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone Slope	1.00 1.00 0.97
914D3:						
Atlas-----	Very limited: Depth to saturated zone Shrink-swell Slope	1.00 1.00 0.96	Very limited: Depth to saturated zone Shrink-swell Slope	1.00 1.00 0.96	Very limited: Slope Depth to saturated zone Shrink-swell	1.00 1.00 1.00 1.00

Table 14a.--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
914D3: Grantfork-----	Very limited: Depth to saturated zone Slope	1.00 0.96	Very limited: Depth to saturated zone Slope	1.00 0.96	Very limited: Slope Depth to saturated zone	1.00 1.00
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
962F2: 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
967F: 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
Gosport-----	Very limited: Slope Shrink-swell	1.00 1.00	Very limited: Slope Shrink-swell Depth to soft bedrock	1.00 1.00 0.42	Very limited: Slope Shrink-swell	1.00 1.00
993A: Cowden-----	Very limited: Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited: Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited: Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00
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
1070L: Beaucoup, undrained-----	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
2071L: 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

Table 14a.--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
2071L:						
Aquents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2079D:						
Menfro-----	Somewhat limited: Slope	0.63	Somewhat limited: Slope	0.63	Very limited: Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2113B:						
Oconee-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2122B:						
Colp-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Flooding	1.00
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.81	Shrink-swell	1.00	Depth to saturated zone	0.81
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2183A:						
Shaffton-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2284A:						
Tice-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2304B:						
Landes-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Flooding	1.00

Table 14a.--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
2304B:						
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2384B:						
Edwardsville-----	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
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2477B:						
Winfield-----	Somewhat limited: Shrink-swell	0.50	Somewhat limited: Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited: Shrink-swell Slope	0.50 0.12
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2592A:						
Nameoki-----	Very limited: Flooding Shrink-swell Depth to saturated zone	1.00 1.00 0.98	Very limited: Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited: Flooding Shrink-swell Depth to saturated zone	1.00 1.00 0.98
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2741B:						
Oakville-----	Not limited		Not limited		Not limited	
Psammets-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
3038B:						
Rocher-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Flooding	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

Table 14a.--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
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
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
3334A: Birds-----	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
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
3415A: Orion-----	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
3428A: Coffeen-----	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
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
3592A: Nameoki-----	Very limited: Flooding Shrink-swell Depth to saturated zone	1.00 1.00 0.98	Very limited: Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited: Flooding Shrink-swell Depth to saturated zone	1.00 1.00 0.98
7037A: Worthen-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Flooding	1.00
7037B: Worthen-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Flooding	1.00

Table 14a.--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
7053B: Bloomfield-----	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
7122B: Colp-----	Very limited: Flooding Shrink-swell Depth to saturated zone	1.00 1.00 0.81	Very limited: Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited: Flooding Shrink-swell Depth to saturated zone	1.00 1.00 0.81
7122C: Colp-----	Very limited: Flooding Shrink-swell Depth to saturated zone	1.00 1.00 0.81	Very limited: Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited: Flooding Shrink-swell Slope Depth to saturated zone	1.00 1.00 1.00 0.81
7150A: Onarga-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Flooding	1.00
7151A: Ridgeville-----	Very limited: Flooding Depth to saturated zone	1.00 0.39	Very limited: Flooding Depth to saturated zone	1.00 1.00	Very limited: Flooding Depth to saturated zone	1.00 0.39
7338A: 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
7430A: Raddle-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Flooding	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

Table 14a.--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
7445A: Newhaven-----	Very limited: Flooding Shrink-swell Depth to saturated zone	 1.00 0.50 0.39	Very limited: Flooding Depth to saturated zone Shrink-swell	 1.00 1.00 0.50	Very limited: Flooding Shrink-swell Depth to saturated zone	 1.00 0.50 0.39
7741B: Oakville-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Flooding	1.00
7741C: Oakville-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Flooding Slope	1.00 1.00
8038B: Rocher-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	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
8071L: 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
8078A: Arenzville-----	Very limited: Flooding	1.00	Very limited: Flooding Shrink-swell Depth to saturated zone	 1.00 0.50 0.15	Very limited: Flooding	1.00
8180A: Dupo-----	Very limited: Flooding Depth to saturated zone	 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	 1.00 1.00
8183A: Shaffton-----	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
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

Table 14a.--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
8302A: Ambraw-----	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	 1.00 1.00 1.00 	Very limited: Ponding Flooding Depth to saturated zone Shrink-swell	 1.00 1.00 1.00 0.50
8304B: Landes-----	Very limited: Flooding	 1.00	Very limited: Flooding	 1.00	Very limited: Flooding	 1.00
8331A: Haymond-----	Very limited: Flooding	 1.00	Very limited: Flooding	 1.00	Very limited: Flooding	 1.00
8333A: 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
8334A: Birds-----	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
8415A: Orion-----	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
8591A: Fults-----	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
8592A: Nameoki-----	Very limited: Flooding Shrink-swell Depth to saturated zone	 1.00 1.00 0.98 	Very limited: Flooding Depth to saturated zone Shrink-swell	 1.00 1.00 0.50	Very limited: Flooding Shrink-swell Depth to saturated zone	 1.00 1.00 0.98
8674A: Dozaville-----	Very limited: Flooding	 1.00	Very limited: Flooding	 1.00	Very limited: Flooding	 1.00

Table 14a.--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
8831A: Fluvaquents, clayey-----	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 14b.--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 potential 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
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
31A: Pierron-----	Very limited: Depth to saturated zone Frost action Low strength Shrink-swell Ponding	1.00 1.00 1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding	1.00 1.00
35F: Bold-----	Very limited: Slope Frost action	1.00 1.00	Very limited: Slope Cutbanks cave	1.00 0.50	Very limited: Slope	1.00
46A: 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
50A: Virdden-----	Very limited: Ponding Depth to saturated zone Frost action Shrink-swell	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
79B: Menfro-----	Very limited: Frost action Shrink-swell	1.00 0.50	Somewhat limited: Cutbanks cave	0.10	Not limited	
79C2: Menfro-----	Very limited: Frost action Shrink-swell	1.00 0.50	Somewhat limited: Cutbanks cave	0.10	Not limited	

Table 14b.--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
79C3: Menfro-----	Very limited: Frost action Shrink-swell	1.00 0.50	Somewhat limited: Cutbanks cave	0.10	Not limited	
79D2: Menfro-----	Very limited: Frost action Slope Shrink-swell	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 Slope Shrink-swell	1.00 0.96 0.50	Somewhat limited: Slope Cutbanks cave	0.96 0.10	Somewhat limited: Slope	0.96
79F: Menfro-----	Very limited: Slope Frost action Shrink-swell	1.00 1.00 0.50	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
79F3: Menfro-----	Very limited: Slope Frost action Shrink-swell	1.00 1.00 0.50	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
79G: Menfro-----	Very limited: Slope Frost action Shrink-swell	1.00 1.00 0.50	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
90A: Bethalto-----	Very limited: Frost action Depth to saturated zone Shrink-swell	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
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

Table 14b.--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
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
165A: Weir-----	Very limited: Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	 1.00 0.10	Very limited: Depth to saturated zone	 1.00
267A: Caseyville-----	Very limited: Frost action Depth to saturated zone Shrink-swell	 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 Depth to saturated zone Shrink-swell	 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
283B: Downsouth-----	Very limited: Frost action Shrink-swell	 1.00 0.50	Somewhat limited: Depth to saturated zone Cutbanks cave	 0.99 0.10	Not limited	
283C2: Downsouth-----	Very limited: Frost action Shrink-swell	 1.00 0.50	Somewhat limited: Depth to saturated zone Cutbanks cave	 0.99 0.10	Not limited	
384A: Edwardsville-----	Very limited: Frost action Depth to saturated zone Shrink-swell	 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 14b.--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
385A: Mascoutah-----	Very limited: Ponding Depth to saturated zone Frost action Shrink-swell	 1.00 1.00 1.00 0.50	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
438B: Aviston-----	Very limited: Frost action Shrink-swell	 1.00 0.50	Somewhat limited: Depth to saturated zone Cutbanks cave	 0.99 0.10	Not limited	
438C2: Aviston-----	Very limited: Frost action Shrink-swell	 1.00 0.50	Somewhat limited: Depth to saturated zone Cutbanks cave	 0.99 0.10	Not limited	
441B: Wakenda-----	Very limited: Frost action Shrink-swell	 1.00 0.50	Somewhat limited: Depth to saturated zone Cutbanks cave	 0.15 0.10	Not limited	
441C2: Wakenda-----	Very limited: Frost action Shrink-swell	 1.00 0.50	Somewhat limited: Depth to saturated zone Cutbanks cave	 0.15 0.10	Not limited	
474A: 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
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 Shrink-swell	 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	

Table 14b.--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
477C3: Winfield-----	Very limited: Frost action Shrink-swell	1.00 0.50	Somewhat limited: Depth to saturated zone Cutbanks cave	0.99 0.10	Not limited	
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
491B: Ruma-----	Very limited: Frost action Shrink-swell	1.00 0.50	Somewhat limited: Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
491C2: Ruma-----	Very limited: Frost action Shrink-swell	1.00 0.50	Somewhat limited: Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
491D2: Ruma-----	Very limited: Frost action Slope Shrink-swell	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
491D3: Ruma-----	Very limited: Frost action Slope Shrink-swell	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
515B3: 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
515C3: 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 14b.--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
515D3: Bunkum-----	Very limited: Frost action Low strength Slope Depth to saturated zone Shrink-swell	 1.00 1.00 0.96 0.75 0.50	Very limited: Depth to saturated zone Slope Cutbanks cave	 1.00 0.96 0.10	Somewhat limited: Slope Depth to saturated zone	 0.96 0.75
517A: Marine-----	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 0.50	Somewhat limited: Depth to saturated zone	 0.94
517B: Marine-----	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 0.50	Somewhat limited: Depth to saturated zone	 0.94
533: Urban land-----	Not rated		Not rated		Not rated	
536: Dumps-----	Not rated		Not rated		Not rated	
581B2: Tamalco-----	Very limited: Frost action Shrink-swell	 1.00 0.50	Somewhat limited: Depth to saturated zone Cutbanks cave	 0.73 0.10	Very limited: Sodium content	 1.00
582B: Homen-----	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	
582C2: Homen-----	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	
585F: Negley-----	Very limited: Slope Frost action	 1.00 0.50	Very limited: Slope Cutbanks cave	 1.00 1.00	Very limited: Slope	 1.00
630D3: Navlys-----	Very limited: Frost action Slope Shrink-swell	 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

Table 14b.--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
657A: Burksville-----	Very limited: Depth to saturated zone Frost action Low strength Ponding Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 1.00 0.10	Very limited: Depth to saturated zone Ponding	1.00 1.00
701F: Menfro-----	Very limited: Slope Frost action Shrink-swell	1.00 1.00 0.50	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
Hickory-----	Very limited: Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited: Slope Cutbanks cave	1.00 0.10	Very limited: Slope	1.00
702F: Ruma-----	Very limited: Slope Frost action Shrink-swell	1.00 1.00 0.50	Very limited: Slope Depth to saturated zone Cutbanks cave	1.00 0.15 0.10	Very limited: Slope	1.00
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
703A: Pierron-----	Very limited: Ponding Depth to saturated zone Frost action Shrink-swell	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
Burksville-----	Very limited: Ponding Depth to saturated zone Frost action Shrink-swell	1.00 1.00 1.00 0.50	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
801B: Orthents, silty----	Very limited: Frost action Shrink-swell Depth to saturated zone	1.00 0.50 0.03	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited: Depth to saturated zone	0.03
801D: Orthents, silty----	Very limited: Frost action Slope Shrink-swell Depth to saturated zone	1.00 1.00 0.50 0.03	Very limited: Depth to saturated zone Slope Cutbanks cave	1.00 1.00 0.10	Very limited: Slope Depth to saturated zone	1.00 0.03

Table 14b.--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
802B: Orthents, loamy-----	Somewhat limited: Shrink-swell Frost action	0.50 0.50	Somewhat limited: Depth to saturated zone Cutbanks cave	0.24 0.10	Not limited	
802D: Orthents, loamy-----	Very limited: Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited: Slope Depth to saturated zone Cutbanks cave	1.00 0.24 0.10	Very limited: Slope	1.00
864, 865: Pits-----	Not rated		Not rated		Not rated	
867: Oil waste land-----	Not rated		Not rated		Not rated	
878C3: Coulterville-----	Very limited: Frost action Depth to saturated zone Shrink-swell	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
Grantfork-----	Very limited: Frost action Depth to saturated zone	1.00 0.94	Very limited: Depth to saturated zone Cutbanks cave Too clayey	1.00 0.10 0.02	Somewhat limited: Depth to saturated zone	0.94
880B2: Coulterville-----	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
Darmstadt-----	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	Very limited: Sodium content Depth to saturated zone	1.00 0.94
882B: 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
Coulterville-----	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

Table 14b.--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
882B: Darmstadt-----	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	Very limited: Sodium content Depth to saturated zone	1.00 0.94
885A: Virden-----	Very limited: Depth to saturated zone Frost action Low strength Shrink-swell Ponding	1.00 1.00 1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 0.10	Very limited: Depth to saturated zone Ponding	1.00 1.00
Fosterburg-----	Very limited: Depth to saturated zone Frost action Low strength Shrink-swell	1.00 1.00 1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited: Depth to saturated zone	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
897D3: Bunkum-----	Very limited: Frost action Low strength Slope Depth to saturated zone Shrink-swell	1.00 1.00 0.96 0.75 0.50	Very limited: Depth to saturated zone Slope Cutbanks cave	1.00 0.96 0.10	Somewhat limited: Slope Depth to saturated zone	0.96 0.75

Table 14b.--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
897D3:						
Atlas-----	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to	1.00	Slope	0.96
	Low strength	1.00	saturated zone		Depth to	0.94
	Shrink-swell	1.00	Slope	0.96	saturated zone	
	Slope	0.96	Cutbanks cave	0.10		
	Depth to	0.94	Too clayey	0.02		
	saturated zone					
914C3:						
Atlas-----	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	Cutbanks cave	0.10		
	Depth to	0.94	Too clayey	0.02		
	saturated zone					
Grantfork-----	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		Too clayey	0.02		
914D3:						
Atlas-----	Very limited:		Very limited:		Very limited:	
	Frost action	1.00	Depth to	1.00	Depth to	1.00
	Shrink-swell	1.00	saturated zone		saturated zone	
	Depth to	1.00	Slope	0.96	Slope	0.96
	saturated zone	0.96	Cutbanks cave	0.10		
	Slope	0.96				
Grantfork-----	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to	1.00	Slope	0.96
	Slope	0.96	saturated zone		Depth to	0.94
	Depth to	0.94	Slope	0.96	saturated zone	
	saturated zone		Cutbanks cave	0.10		
			Too clayey	0.02		
962D2:						
Sylvan-----	Very limited:		Somewhat limited:		Somewhat limited:	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Cutbanks cave	0.50		
	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	0.50		
962F2:						
Sylvan-----	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.50		
	Shrink-swell	0.50				
Bold-----	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.50		

Table 14b.--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
967F:						
Hickory-----	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
Gosport-----	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	1.00	Depth to soft bedrock	0.42	Depth to bedrock	0.42
	Frost action	0.50	Too clayey	0.32		
			Cutbanks cave	0.10		
993A:						
Cowden-----	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Ponding	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				
1070L:						
Beaucoup, undrained	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	Flooding	0.60	Flooding	0.60
	Flooding	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
2071L:						
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	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too clayey	0.68	Too clayey	1.00
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Frost action	0.50	Cutbanks cave	0.10		
Aquents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2079D:						
Menfro-----	Very limited:		Somewhat limited:		Somewhat limited:	
	Frost action	1.00	Slope	0.63	Slope	0.63
	Slope	0.63	Cutbanks cave	0.10		
	Shrink-swell	0.50				
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	

Table 14b.--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
2113B:						
Oconee-----	Very limited: Frost action Shrink-swell Depth to saturated zone	1.00 1.00 0.94	Very limited: Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Somewhat limited: Depth to saturated zone	0.94
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2122B:						
Colp-----	Very limited: Frost action Flooding Shrink-swell Depth to saturated zone	1.00 1.00 1.00 0.48	Very limited: Depth to saturated zone Cutbanks cave Too clayey	1.00 1.00 0.60 0.10 0.02	Somewhat limited: Flooding Depth to saturated zone	0.60 0.48
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2183A:						
Shaffton-----	Very limited: Flooding Depth to saturated zone Frost action	1.00 0.75 0.50	Very limited: Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 1.00 0.60	Somewhat limited: Depth to saturated zone Flooding	0.75 0.60
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2284A:						
Tice-----	Very limited: Frost action Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.75 0.50	Very limited: Depth to saturated zone Flooding Cutbanks cave	1.00 1.00 0.60 0.10	Somewhat limited: Depth to saturated zone Flooding	0.75 0.60
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2304B:						
Landes-----	Very limited: Flooding Frost action	1.00 0.50	Very limited: Cutbanks cave Flooding	1.00 0.60	Somewhat limited: Flooding	0.60
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2384B:						
Edwardsville-----	Very limited: Frost action Depth to saturated zone Shrink-swell	1.00 0.75 0.50	Very limited: Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Somewhat limited: Depth to saturated zone	0.75

Table 14b.--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
2384B:						
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2477B:						
Winfield-----	Very limited: Frost action Shrink-swell	1.00 0.50	Somewhat limited: Depth to saturated zone Cutbanks cave	0.99 0.10	Not limited	
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2592A:						
Nameoki-----	Very limited: Frost action Flooding Shrink-swell Depth to saturated zone	1.00 1.00 1.00 0.75	Very limited: Depth to saturated zone Cutbanks cave Flooding Too clayey	1.00 1.00 1.00 0.60 0.32	Very limited: Too clayey Depth to saturated zone Flooding	1.00 0.75 0.60
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2741B:						
Oakville-----	Not limited		Very limited: Cutbanks cave	1.00	Somewhat limited: Droughty	0.71
Psamments-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
3038B:						
Rocher-----	Very limited: Flooding Frost action	1.00 0.50	Very limited: Cutbanks cave Flooding	1.00 0.80	Very limited: Flooding	1.00
3070A:						
Beaucoup-----	Very limited: Ponding Depth to saturated zone Frost action Flooding Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited: Ponding Depth to saturated zone Flooding Cutbanks cave	1.00 1.00 0.80 0.10	Very limited: Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3070L:						
Beaucoup-----	Very limited: Ponding Depth to saturated zone Frost action Flooding Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited: Ponding Depth to saturated zone Flooding Cutbanks cave	1.00 1.00 0.80 0.10	Very limited: Ponding Flooding Depth to saturated zone	1.00 1.00 1.00

Table 14b.--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
3071L: Darwin-----	Very limited: Shrink-swell Ponding Depth to saturated zone Frost action Flooding	1.00 1.00 1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Flooding Too clayey Cutbanks cave	1.00 1.00 0.80 0.68 0.10	Very limited: Ponding Flooding Depth to saturated zone Too clayey	1.00 1.00 1.00 1.00
3333A: Wakeland-----	Very limited: Frost action Flooding Depth to saturated zone	1.00 1.00 0.94	Very limited: Depth to saturated zone Flooding Cutbanks cave	1.00 0.80 0.10	Very limited: Flooding Depth to saturated zone	1.00 0.94
3334A: Birds-----	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 0.80 0.10	Very limited: Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3336A: Wilbur-----	Very limited: Frost action Flooding Depth to saturated zone	1.00 1.00 0.43	Very limited: Depth to saturated zone Flooding Cutbanks cave	1.00 0.80 0.10	Very limited: Flooding Depth to saturated zone	1.00 0.43
3415A: Orion-----	Very limited: Frost action Flooding Depth to saturated zone	1.00 1.00 0.94	Very limited: Depth to saturated zone Flooding Cutbanks cave	1.00 0.80 0.10	Very limited: Flooding Depth to saturated zone	1.00 0.94
3428A: Coffeen-----	Very limited: Frost action Flooding Depth to saturated zone	1.00 1.00 0.75	Very limited: Depth to saturated zone Flooding Cutbanks cave	1.00 0.80 0.10	Very limited: Flooding Depth to saturated zone	1.00 0.75
3451A: Lawson-----	Very limited: Frost action Flooding Low strength Depth to saturated zone	1.00 1.00 1.00 0.75	Very limited: Depth to saturated zone Flooding Cutbanks cave	1.00 0.80 0.10	Very limited: Flooding Depth to saturated zone	1.00 0.75
3592A: Nameoki-----	Very limited: Frost action Flooding Shrink-swell Depth to saturated zone	1.00 1.00 1.00 0.75	Very limited: Depth to saturated zone Cutbanks cave Flooding Too clayey	1.00 1.00 1.00 0.80 0.32	Very limited: Flooding Depth to saturated zone	1.00 0.75

Table 14b.--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
7037A: Worthen-----	Very limited: Frost action Low strength Flooding	1.00 0.78 0.40	Somewhat limited: Cutbanks cave	0.10	Not limited	
7037B: Worthen-----	Very limited: Frost action Low strength Flooding	1.00 0.78 0.40	Somewhat limited: Cutbanks cave	0.10	Not limited	
7053B: Bloomfield-----	Somewhat limited: Flooding	0.40	Very limited: Cutbanks cave	1.00	Not limited	
7075B: Drury-----	Very limited: Frost action Low strength Flooding	1.00 1.00 0.40	Somewhat limited: Cutbanks cave	0.10	Not limited	
7081A: Littleton-----	Very limited: Frost action Depth to saturated zone Flooding	1.00 0.75 0.40	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited: Depth to saturated zone	0.75
7122B: Colp-----	Very limited: Frost action Shrink-swell Depth to saturated zone Flooding	1.00 1.00 0.48 0.40	Very limited: Depth to saturated zone Cutbanks cave Too clayey	1.00 0.10 0.02	Somewhat limited: Depth to saturated zone	0.48
7122C: Colp-----	Very limited: Frost action Shrink-swell Depth to saturated zone Flooding	1.00 1.00 0.48 0.40	Very limited: Depth to saturated zone Cutbanks cave Too clayey	1.00 0.10 0.02	Somewhat limited: Depth to saturated zone	0.48
7150A: Onarga-----	Somewhat limited: Frost action Flooding	0.50 0.40	Very limited: Cutbanks cave	1.00	Not limited	
7151A: Ridgeville-----	Very limited: Frost action Flooding Depth to saturated zone	1.00 0.40 0.19	Very limited: Depth to saturated zone Cutbanks cave	1.00 1.00	Somewhat limited: Depth to saturated zone	0.19

Table 14b.--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
7338A: Hurst-----	Very limited: Shrink-swell Depth to saturated zone Frost action Flooding	1.00 0.94 0.50 0.40	Very limited: Depth to saturated zone Too clayey Cutbanks cave	1.00 0.12 0.10	Somewhat limited: Depth to saturated zone	0.94
7430A: Raddle-----	Very limited: Frost action Flooding	1.00 0.40	Somewhat limited: Cutbanks cave	0.10	Not limited	
7432A: Geff-----	Very limited: Frost action Depth to saturated zone Shrink-swell Flooding	1.00 0.75 0.50 0.40	Very limited: Depth to saturated zone Cutbanks cave	1.00 1.00	Somewhat limited: Depth to saturated zone	0.75
7434B: Ridgway-----	Very limited: Frost action Shrink-swell Flooding	1.00 0.50 0.40	Very limited: Cutbanks cave	1.00	Not limited	
7445A: Newhaven-----	Very limited: Frost action Shrink-swell Flooding Depth to saturated zone	1.00 0.50 0.40 0.19	Very limited: Depth to saturated zone Cutbanks cave	1.00 1.00	Somewhat limited: Depth to saturated zone	0.19
7741B: Oakville-----	Somewhat limited: Flooding	0.40	Very limited: Cutbanks cave	1.00	Somewhat limited: Droughty	0.46
7741C: Oakville-----	Somewhat limited: Flooding	0.40	Very limited: Cutbanks cave	1.00	Somewhat limited: Droughty	0.46
8038B: Rocher-----	Very limited: Flooding Frost action	1.00 0.50	Very limited: Cutbanks cave Flooding	1.00 0.60	Somewhat limited: Flooding	0.60
8070A: Beaucoup-----	Very limited: Ponding Depth to saturated zone Frost action Flooding Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited: Ponding Depth to saturated zone Flooding Cutbanks cave	1.00 1.00 0.60 0.10	Very limited: Ponding Depth to saturated zone Flooding	1.00 1.00 0.60

Table 14b.--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
8071L: Darwin-----	Very limited: Shrink-swell Ponding Depth to saturated zone Flooding Frost action	1.00 1.00 1.00 1.00 1.00 0.50	Very limited: Ponding Depth to saturated zone Too clayey Flooding Cutbanks cave	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
8078A: Arenzville-----	Very limited: Frost action Flooding	1.00 1.00	Somewhat limited: Flooding Depth to saturated zone Cutbanks cave	0.60 0.15 0.10	Somewhat limited: Flooding	0.60
8180A: Dupo-----	Very limited: Frost action Flooding Depth to saturated zone	1.00 1.00 0.94	Very limited: Depth to saturated zone Flooding Cutbanks cave Too clayey	1.00 0.60 0.50 0.12	Somewhat limited: Depth to saturated zone Flooding	0.94 0.60
8183A: Shaffton-----	Very limited: Flooding Depth to saturated zone Frost action	1.00 0.75 0.50	Very limited: Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Somewhat limited: Depth to saturated zone Flooding	0.75 0.60
8284A: Tice-----	Very limited: Frost action Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.75 0.50	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.60 0.10	Somewhat limited: Depth to saturated zone Flooding	0.75 0.60
8302A: Ambraw-----	Very limited: Ponding Depth to saturated zone Frost action Flooding Shrink-swell	1.00 1.00 1.00 1.00 0.50	Very limited: Ponding Depth to saturated zone Flooding Cutbanks cave	1.00 1.00 0.60 0.10	Very limited: Ponding Depth to saturated zone Flooding	1.00 1.00 0.60
8304B: Landes-----	Very limited: Flooding Frost action	1.00 0.50	Very limited: Cutbanks cave Flooding	1.00 0.60	Somewhat limited: Flooding	0.60
8331A: Haymond-----	Very limited: Frost action Flooding	1.00 1.00	Somewhat limited: Flooding Cutbanks cave	0.60 0.10	Somewhat limited: Flooding	0.60

Table 14b.--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
8333A: Wakeland-----	Very limited: Frost action Flooding Depth to saturated zone	 1.00 1.00 0.94	Very limited: Depth to saturated zone Flooding Cutbanks cave	 1.00 0.60 0.10	Somewhat limited: Depth to saturated zone Flooding	 0.94 0.60
8334A: Birds-----	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 0.60 0.10	Very limited: Ponding Depth to saturated zone Flooding	 1.00 1.00 0.60
8415A: Orion-----	Very limited: Frost action Flooding Depth to saturated zone	 1.00 1.00 0.94	Very limited: Depth to saturated zone Flooding Cutbanks cave	 1.00 0.60 0.10	Somewhat limited: Depth to saturated zone Flooding	 0.94 0.60
8591A: Fults-----	Very limited: Ponding Depth to saturated zone Frost action Flooding Shrink-swell	 1.00 1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Cutbanks cave Too clayey Flooding	 1.00 1.00 1.00 0.88 0.60	Very limited: Ponding Depth to saturated zone Too clayey Flooding	 1.00 1.00 1.00 0.60
8592A: Nameoki-----	Very limited: Frost action Flooding Shrink-swell Depth to saturated zone	 1.00 1.00 1.00 0.75	Very limited: Depth to saturated zone Cutbanks cave Flooding Too clayey	 1.00 1.00 0.60 0.32	Very limited: Too clayey Depth to saturated zone Flooding	 1.00 0.75 0.60
8674A: Dozaville-----	Very limited: Frost action Flooding	 1.00 1.00	Very limited: Cutbanks cave Flooding	 1.00 0.60	Somewhat limited: Flooding	 0.60
8831A: Fluvaquents, clayey	Very limited: Ponding Depth to saturated zone Flooding Shrink-swell	 1.00 1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Flooding Too clayey Cutbanks cave	 1.00 1.00 0.60 0.50 0.10	Very limited: Ponding Depth to saturated zone Too clayey Flooding	 1.00 1.00 1.00 0.60

Table 15a.--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
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 0.46	Very limited: Slope Seepage	1.00 0.53
31A: Pierron-----	Very limited: Restricted permeability Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00
35F: Bold-----	Very limited: Slope Restricted permeability	1.00 0.46	Very limited: Slope Seepage	1.00 0.53
46A: Herrick-----	Very limited: Depth to saturated zone Restricted permeability	1.00 1.00	Very limited: Depth to saturated zone	1.00
50A: Virden-----	Very limited: Ponding Depth to saturated zone Restricted permeability	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone	1.00 1.00
79B: Menfro-----	Somewhat limited: Restricted permeability	0.46	Somewhat limited: Seepage Slope	0.53 0.32
79C2: Menfro-----	Somewhat limited: Restricted permeability	0.46	Very limited: Slope Seepage	1.00 0.53
79C3: Menfro-----	Somewhat limited: Restricted permeability	0.46	Very limited: Slope Seepage	1.00 0.53

Table 15a.--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 Restricted permeability	0.96 0.46	Very limited: Slope Seepage	1.00 0.53
79D3: Menfro-----	Somewhat limited: Slope Restricted permeability	0.96 0.46	Very limited: Slope Seepage	1.00 0.53
79F: Menfro-----	Very limited: Slope Restricted permeability	1.00 0.46	Very limited: Slope Seepage	1.00 0.53
79F3: Menfro-----	Very limited: Slope Restricted permeability	1.00 0.46	Very limited: Slope Seepage	1.00 0.53
79G: Menfro-----	Very limited: Slope Restricted permeability	1.00 0.46	Very limited: Slope Seepage	1.00 0.53
90A: Bethalto-----	Very limited: Depth to saturated zone Restricted permeability	1.00 0.46	Very limited: Depth to saturated zone Seepage	1.00 0.53
113A: Oconee-----	Very limited: Restricted permeability Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone	1.00
113B: Oconee-----	Very limited: Restricted permeability Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Slope	1.00 0.18
119C3: Elco-----	Very limited: Depth to saturated zone Restricted permeability	1.00 1.00	Very limited: Slope Depth to saturated zone Seepage	1.00 0.96 0.53

Table 15a.--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
119D2: Elco-----	Very limited: Depth to saturated zone	1.00	Very limited: Slope	1.00
	Restricted permeability	1.00	Depth to saturated zone	0.96
	Slope	0.96	Seepage	0.53
119D3: Elco-----	Very limited: Depth to saturated zone	1.00	Very limited: Slope	1.00
	Restricted permeability	1.00	Depth to saturated zone	0.96
	Slope	0.96	Seepage	0.53
165A: Weir-----	Very limited: Restricted permeability	1.00	Not limited	
	Depth to saturated zone	1.00		
267A: Caseyville-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
267B: Caseyville-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
			Slope	0.32
283B: Downsouth-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
			Slope	0.32
283C2: Downsouth-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Restricted permeability	0.46	Slope	1.00
			Seepage	0.53
384A: Edwardsville-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53

Table 15a.--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
385A: Mascoutah-----	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
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 0.32
438C2: Aviston-----	Very limited: Depth to saturated zone Restricted permeability	1.00 0.46	Very limited: Depth to saturated zone Slope Seepage	1.00 1.00 0.53
441B: Wakenda-----	Somewhat limited: Restricted permeability Depth to saturated zone	0.46 0.40	Somewhat limited: Seepage Slope	0.53 0.32
441C2: Wakenda-----	Somewhat limited: Restricted permeability Depth to saturated zone	0.46 0.40	Very limited: Slope Seepage	1.00 0.53
474A: Piassa-----	Very limited: Restricted permeability Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Ponding	1.00
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 0.32

Table 15a.--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: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Restricted permeability	0.46	Slope Seepage	1.00 0.53
477C3: Winfield-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Restricted permeability	0.46	Slope Seepage	1.00 0.53
477D3: Winfield-----	Very limited: Depth to saturated zone	1.00	Very limited: Slope	1.00
	Slope	0.96	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
491B: Ruma-----	Somewhat limited: Restricted permeability	0.46	Somewhat limited: Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.32
491C2: Ruma-----	Somewhat limited: Restricted permeability	0.46	Very limited: Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.53
491D2: Ruma-----	Somewhat limited: Slope	0.96	Very limited: Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
	Depth to saturated zone	0.40		
491D3: Ruma-----	Somewhat limited: Slope	0.96	Very limited: Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
	Depth to saturated zone	0.40		
515B3: Bunkum-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	0.18

Table 15a.--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
515C3: Bunkum-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	1.00
515D3: Bunkum-----	Very limited: Depth to saturated zone	1.00	Very limited: Slope	1.00
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Slope	0.96		
517A: Marine-----	Very limited: Restricted permeability	1.00	Very limited: Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
517B: Marine-----	Very limited: Restricted permeability	1.00	Very limited: Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.18
533: Urban land-----	Not rated		Not rated	
536: Dumps-----	Not rated		Not rated	
581B2: Tamalco-----	Very limited: Restricted permeability	1.00	Somewhat limited: Depth to saturated zone	0.92
	Depth to saturated zone	1.00	Slope	0.32
582B: Homen-----	Very limited: Depth to saturated zone	1.00	Somewhat limited: Depth to saturated zone	0.96
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.18
582C2: Homen-----	Very limited: Depth to saturated zone	1.00	Somewhat limited: Depth to saturated zone	0.96
	Restricted permeability	1.00	Slope	1.00
585F: Negley-----	Very limited: Slope	1.00	Very limited: Slope	1.00
			Seepage	1.00

Table 15a.--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
630D3: Navlys-----	Very limited: Depth to saturated zone Slope Restricted permeability	1.00 0.96 0.46	Very limited: Slope Depth to saturated zone Seepage	1.00 1.00 0.53
657A: Burksville-----	Very limited: Restricted permeability Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00
701F: Menfro-----	Very limited: Slope Restricted permeability	1.00 0.46	Very limited: Slope Seepage	1.00 0.53
Hickory-----	Very limited: Slope Restricted permeability	1.00 0.46	Very limited: Slope Seepage	1.00 0.53
702F: Ruma-----	Very limited: Slope Restricted permeability Depth to saturated zone	1.00 0.46 0.40	Very limited: Slope Seepage	1.00 0.53
Hickory-----	Very limited: Slope Restricted permeability	1.00 0.46	Very limited: Slope Seepage	1.00 0.53
703A: Pierron-----	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
Burksville-----	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
801B: Orthents, silty-----	Very limited: Depth to saturated zone Restricted permeability	1.00 0.72	Very limited: Depth to saturated zone Slope	1.00 0.08

Table 15a.--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
801D: Orthents, silty-----	Very limited: Depth to saturated zone Slope Restricted permeability	1.00 1.00 0.72	Very limited: Depth to saturated zone Slope	1.00 1.00
802E: Orthents, loamy-----	Very limited: Restricted permeability Depth to saturated zone	1.00 0.65	Somewhat limited: Slope Depth to saturated zone	0.08 0.02
802D: Orthents, loamy-----	Very limited: Restricted permeability Slope Depth to saturated zone	1.00 1.00 0.65	Very limited: Slope Depth to saturated zone	1.00 0.02
864, 865: Pits-----	Not rated		Not rated	
867: Oil waste land-----	Not rated		Not rated	
878C3: Coulterville-----	Very limited: Restricted permeability Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Slope	1.00 1.00
Grantfork-----	Very limited: Restricted permeability Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Slope	1.00 1.00
880E2: Coulterville-----	Very limited: Restricted permeability Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Slope	1.00 0.18
Darmstadt-----	Very limited: Restricted permeability Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Slope	1.00 0.18
882B: Oconee-----	Very limited: Restricted permeability Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Slope	1.00 0.18

Table 15a.--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
882B: Coulterville-----	Very limited: Restricted permeability Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Slope	1.00 0.18
Darmstadt-----	Very limited: Restricted permeability Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Slope	1.00 0.18
885A: Virден-----	Very limited: Depth to saturated zone Restricted permeability Ponding	1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding	1.00 1.00
Fosterburg-----	Very limited: Restricted permeability Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone	1.00
894A: Herrick-----	Very limited: Depth to saturated zone Restricted permeability	1.00 1.00	Very limited: Depth to saturated zone	1.00
Biddle-----	Very limited: Restricted permeability Depth to saturated zone	1.00 1.00	Somewhat limited: Depth to saturated zone	0.01
Piasa-----	Very limited: Restricted permeability Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited: Ponding	1.00
897D3: Bunkum-----	Very limited: Depth to saturated zone Restricted permeability Slope	1.00 1.00 0.96	Very limited: Slope Depth to saturated zone	1.00 1.00
Atlas-----	Very limited: Restricted permeability Depth to saturated zone Slope	1.00 1.00 0.96	Very limited: Slope Depth to saturated zone	1.00 1.00

Table 15a.--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
914C3:				
Atlas-----	Very limited: Restricted permeability	1.00	Very limited: Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
Grantfork-----	Very limited: Restricted permeability	1.00	Very limited: Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
914D3:				
Atlas-----	Very limited: Restricted permeability	1.00	Very limited: Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	0.96		
Grantfork-----	Very limited: Restricted permeability	1.00	Very limited: Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	0.96		
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
962F2:				
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
967F:				
Hickory-----	Very limited: Slope	1.00	Very limited: Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Gosport-----	Very limited: Depth to bedrock	1.00	Very limited: Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00

Table 15a.--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:				
Cowden-----	Very limited: Restricted permeability	1.00	Very limited: Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00		
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		
1070L:				
Beaucoup, undrained	Very limited: Flooding	1.00	Very limited: Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00		
2071L:				
Darwin-----	Very limited: Flooding	1.00	Very limited: Ponding	1.00
	Restricted permeability	1.00	Flooding	1.00
	Ponding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
Aquents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2079D:				
Menfro-----	Somewhat limited: Slope	0.63	Very limited: Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2113B:				
Oconee-----	Very limited: Restricted permeability	1.00	Very limited: Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.32
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	

Table 15a.--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
2122B:				
Colp-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00
	Restricted permeability	1.00	Slope	0.32
	Depth to saturated zone	1.00	Depth to saturated zone	0.06
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2183A:				
Shaffton-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46		
Fluents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2284A:				
Tice-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
Fluents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2304B:				
Landes-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00
	Filtering capacity	1.00	Seepage	1.00
			Slope	0.32
Fluents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2384B:				
Edwardsville-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
			Slope	0.08
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	

Table 15a.--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
2477B:				
Winfield-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Restricted permeability	0.46	Slope Seepage	0.68 0.53
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2592A:				
Nameoki-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
Fluvents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2741B:				
Oakville-----	Very limited: Filtering capacity	1.00	Very limited: Seepage Slope	1.00 0.32
Psammments-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
3038B:				
Rocher-----	Very limited: Flooding	1.00	Very limited: Flooding Seepage Slope	1.00 1.00 0.32
3070A:				
Beaucoup-----	Very limited: Flooding	1.00	Very limited: Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00		
3070L:				
Beaucoup-----	Very limited: Flooding	1.00	Very limited: Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53

Table 15a.--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
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
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
3334A: Birds-----	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
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
3415A: Orion-----	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
3428A: Coffeen-----	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 1.00
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

Table 15a.--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
3592A: Nameoki-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
7037A: Worthen-----	Somewhat limited: Restricted	0.46	Somewhat limited: Seepage	0.53
	permeability		Flooding	0.40
	Flooding	0.40		
7037B: Worthen-----	Somewhat limited: Restricted	0.46	Somewhat limited: Seepage	0.53
	permeability		Flooding	0.40
	Flooding	0.40	Slope	0.18
7053B: Bloomfield-----	Very limited: Filtering capacity	1.00	Very limited: Seepage	1.00
	Flooding	0.40	Flooding	0.40
			Slope	0.32
7075B: Drury-----	Somewhat limited: Restricted	0.46	Somewhat limited: Seepage	0.53
	permeability		Flooding	0.40
	Flooding	0.40	Slope	0.18
7081A: Littleton-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
	Flooding	0.40	Flooding	0.40
7122B: Colp-----	Very limited: Restricted	1.00	Somewhat limited: Flooding	0.40
	permeability		Slope	0.32
	Depth to saturated zone	1.00	Depth to saturated zone	0.06
	Flooding	0.40		
7122C: Colp-----	Very limited: Restricted	1.00	Very limited: Slope	1.00
	permeability		Flooding	0.40
	Depth to saturated zone	1.00	Depth to saturated zone	0.06
	Flooding	0.40		
7150A: Onarga-----	Very limited: Filtering capacity	1.00	Very limited: Seepage	1.00
	Flooding	0.40	Flooding	0.40

Table 15a.--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
7151A: Ridgeville-----	Very limited: Depth to saturated zone	1.00	Very limited: Seepage	1.00
	Restricted permeability	0.46	Depth to saturated zone	1.00
	Flooding	0.40	Flooding	0.40
7338A: Hurst-----	Very limited: Restricted permeability	1.00	Somewhat limited: Flooding	0.40
	Depth to saturated zone	1.00		
	Flooding	0.40		
7430A: Raddle-----	Somewhat limited: Restricted permeability	0.46	Somewhat limited: Seepage	0.53
	Flooding	0.40	Flooding	0.40
7432A: Geff-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
	Filtering capacity	1.00	Seepage	0.53
	Restricted permeability	0.46	Flooding	0.40
	Flooding	0.40		
7434B: Ridgway-----	Very limited: Filtering capacity	1.00	Very limited: Seepage	1.00
	Restricted permeability	0.46	Flooding	0.40
	Flooding	0.40	Slope	0.32
7445A: Newhaven-----	Very limited: Depth to saturated zone	1.00	Very limited: Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Flooding	0.40
	Flooding	0.40		
7741B: Oakville-----	Very limited: Filtering capacity	1.00	Very limited: Seepage	1.00
	Flooding	0.40	Flooding	0.40
			Slope	0.32
7741C: Oakville-----	Very limited: Filtering capacity	1.00	Very limited: Seepage	1.00
	Flooding	0.40	Slope	1.00
			Flooding	0.40

Table 15a.--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
8038B: Rocher-----	Very limited: Flooding	1.00	Very limited: Flooding Seepage Slope	1.00 1.00 0.32
8070A: Beaucoup-----	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
8071L: 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
8078A: Arenzville-----	Very limited: Flooding Restricted permeability Depth to saturated zone	1.00 0.46 0.40	Very limited: Flooding Seepage	1.00 0.53
8180A: Dupo-----	Very limited: Flooding Restricted permeability Depth to saturated zone	1.00 1.00 1.00	Very limited: Flooding Seepage	1.00 0.53
8183A: Shaffton-----	Very limited: Flooding Depth to saturated zone Filtering capacity Restricted permeability	1.00 1.00 1.00 0.46	Very limited: Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
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

Table 15a.--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
8302A: Ambraw-----	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
8304B: Landes-----	Very limited: Flooding Filtering capacity	1.00 1.00	Very limited: Flooding Seepage Slope	1.00 1.00 0.32
8331A: Haymond-----	Very limited: Flooding Restricted permeability	1.00 0.46	Very limited: Flooding Seepage	1.00 0.53
8333A: 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
8334A: Birds-----	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
8415A: Orion-----	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
8591A: Fulfs-----	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 Seepage	1.00 1.00 1.00 1.00
8592A: Nameoki-----	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 1.00

Table 15a.--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
8674A: Dozaville-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00
	Filtering capacity	1.00	Seepage	0.53
	Restricted permeability	0.46		
8831A: Fluvaquents, clayey	Very limited: Flooding	1.00	Very limited: Ponding	1.00
	Restricted permeability	1.00	Flooding	1.00
	Ponding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		

Table 15b.--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
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
31A: Pierron-----	Very limited: Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding	1.00 1.00	Very limited: Depth to saturated zone Hard to compact Ponding Too clayey	1.00 1.00 1.00 0.50
35F: Bold-----	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
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
50A: Virnden-----	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
79B: Menfro-----	Somewhat limited: Too clayey	0.50	Not limited		Somewhat limited: Too clayey	0.50
79C2: Menfro-----	Somewhat limited: Too clayey	0.50	Not limited		Somewhat limited: Too clayey	0.50
79C3: Menfro-----	Somewhat limited: Too clayey	0.50	Not limited		Somewhat limited: Too clayey	0.50
79D2: Menfro-----	Somewhat limited: Slope Too clayey	0.96 0.50	Somewhat limited: Slope	0.96	Somewhat limited: Slope Too clayey	0.96 0.50

Table 15b.--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
79D3: Menfro-----	Somewhat limited: Slope Too clayey	0.96 0.50	Somewhat limited: Slope	0.96	Somewhat limited: Slope Too clayey	0.96 0.50
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
79F3: Menfro-----	Very limited: Slope Too clayey	1.00 0.50	Very limited: Slope	1.00	Very limited: Slope Too clayey	1.00 0.50
79G: Menfro-----	Very limited: Slope Too clayey	1.00 0.50	Very limited: Slope	1.00	Very limited: Slope Too clayey	1.00 0.50
90A: Bethalto-----	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
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
119C3: Elco-----	Somewhat limited: Depth to saturated zone Too clayey	0.68 0.50	Somewhat limited: Depth to saturated zone	0.68	Somewhat limited: Too clayey Depth to saturated zone	0.50 0.25
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 0.68	Somewhat limited: Slope Too clayey Depth to saturated zone	0.96 0.50 0.25
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 0.68	Somewhat limited: Slope Too clayey Depth to saturated zone	0.96 0.50 0.25

Table 15b.--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
165A: Weir-----	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
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
283B: Downsouth-----	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 0.25
283C2: Downsouth-----	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 0.25
384A: Edwardsville-----	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
385A: Mascoutah-----	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
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 0.25
438C2: 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 0.25
441B: Wakenda-----	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

Table 15b.--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
441C2: Wakenda-----	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
474A: 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
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 0.25
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 0.25
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 0.25
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 0.25
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 0.25
491B: Ruma-----	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
491C2: Ruma-----	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

Table 15b.--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
491D2: Ruma-----	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
491D3: Ruma-----	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
515B3: 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
515D3: Bunkum-----	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	Very limited: Depth to saturated zone Slope Too clayey	1.00 0.96 0.50
517A: Marine-----	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
517B: Marine-----	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
533: Urban land-----	Not rated		Not rated		Not rated	
536: Dumps-----	Not rated		Not rated		Not rated	
581B2: Tamalco-----	Very limited: Depth to saturated zone Sodium content	1.00 1.00	Very limited: Depth to saturated zone	1.00	Very limited: Sodium content 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	0.68	Somewhat limited: Too clayey Depth to saturated zone	0.50 0.25

Table 15b.--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
582C2: Homen-----	Somewhat limited: Depth to saturated zone Too clayey	0.68 0.50	Somewhat limited: Depth to saturated zone	0.68	Somewhat limited: Too clayey Depth to saturated zone	0.50 0.25
585F: Negley-----	Very limited: Slope Seepage	1.00 1.00	Very limited: Slope Seepage	1.00 1.00	Very limited: Slope Too clayey Seepage Gravel content	1.00 0.50 0.22 0.01
630D3: Navlys-----	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 Depth to saturated zone	0.96 0.25
657A: Burksville-----	Very limited: Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding	1.00 1.00	Very limited: Depth to saturated zone Ponding Too clayey	1.00 1.00 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
702F: Ruma-----	Very limited: Depth to saturated zone Slope Too clayey	1.00 1.00 0.50	Very limited: Slope Depth to saturated zone	1.00 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
703A: Pierron-----	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
Burksville-----	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

Table 15b.--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
801B: Orthents, silty-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Somewhat limited: Depth to saturated zone	0.68
801D: Orthents, silty-----	Very limited: Depth to saturated zone Slope	1.00 1.00	Very limited: Depth to saturated zone Slope	1.00 1.00	Very limited: Slope Depth to saturated zone	1.00 0.68
802B: Orthents, loamy-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Not limited	
802D: Orthents, loamy-----	Very limited: Depth to saturated zone Slope	1.00 1.00	Very limited: Depth to saturated zone Slope	1.00 1.00	Very limited: Slope	1.00
864, 865: Pits-----	Not rated		Not rated		Not rated	
867: Oil waste land-----	Not rated		Not rated		Not rated	
878C3: Coulterville-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
Grantfork-----	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
880B2: Coulterville-----	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
Darmstadt-----	Very limited: Depth to saturated zone Sodium content	1.00 1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone Sodium content	1.00 1.00
882B: 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
Coulterville-----	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 15b.--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
882B: Darmstadt-----	Very limited: Depth to saturated zone Sodium content	1.00 1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone Sodium content	1.00 1.00
885A: Viriden-----	Very limited: Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding	1.00 1.00	Very limited: Depth to saturated zone Hard to compact Ponding Too clayey	1.00 1.00 1.00 0.50
Fosterburg-----	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
894A: 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
Biddle-----	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
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
897D3: Bunkum-----	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	Very limited: Depth to saturated zone Slope Too clayey	1.00 0.96 0.50
Atlas-----	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	Very limited: Depth to saturated zone Hard to compact Slope Too clayey	1.00 1.00 0.96 0.50
914C3: Atlas-----	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

Table 15b.--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
914C3: Grantfork-----	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
914D3: Atlas-----	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	Very limited: Depth to saturated zone Hard to compact Slope Too clayey	1.00 1.00 0.96 0.50
Grantfork-----	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	Very limited: Depth to saturated zone Slope Too clayey	1.00 0.96 0.50
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
962F2: 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
967F: Hickory-----	Very limited: Slope Too clayey	1.00 0.50	Very limited: Slope	1.00	Very limited: Slope Too clayey	1.00 0.50
Gosport-----	Very limited: Slope Depth to bedrock Too clayey	1.00 1.00 1.00	Very limited: Slope Depth to bedrock	1.00 1.00	Very limited: Depth to bedrock Slope Too clayey Hard to compact	1.00 1.00 1.00 1.00
993A: Cowden-----	Very limited: Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50	Very limited: Depth to saturated zone Ponding	1.00 1.00	Very limited: Depth to saturated zone Hard to compact Ponding Too clayey	1.00 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

Table 15b.--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
1070L:						
Beaucoup, undrained	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				
2071L:						
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	1.00			Hard to compact	1.00
Aquents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2079D:						
Menfro-----	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Slope	0.63	Slope	0.63	Slope	0.63
	Too clayey	0.50			Too clayey	0.50
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2113B:						
Oconee-----	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
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2122B:						
Colp-----	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Too clayey	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
	Too clayey	1.00			Depth to saturated zone	0.96
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2183A:						
Shaffton-----	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Seepage	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Seepage	1.00		
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	

Table 15b.--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
2284A:						
Tice-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: 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	0.50			Too clayey	0.50
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2304B:						
Landes-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Seepage	1.00
	Seepage	1.00	Seepage	1.00	Too sandy	0.50
	Too sandy	1.00				
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2384B:						
Edwardsville-----	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			Too clayey	0.50
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2477B:						
Winfield-----	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Somewhat limited: Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.25
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2592A:						
Nameoki-----	Very limited: Flooding	1.00	Very limited: Flooding	1.00	Very limited: Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Seepage	1.00			Seepage	0.22
	Too clayey	0.50				
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2741B:						
Oakville-----	Very limited: Seepage	1.00	Very limited: Seepage	1.00	Very limited: Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
Psammets-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	

Table 15b.--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
3038B: Rocher-----	Very limited: Flooding Seepage Too sandy	1.00 1.00 1.00	Very limited: Flooding Seepage	1.00 1.00	Somewhat limited: Seepage	0.52
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
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
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
3334A: Birds-----	Very limited: Flooding Depth to saturated zone Ponding	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	1.00 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
3415A: Orion-----	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
3428A: Coffeen-----	Very limited: Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone	1.00

Table 15b.--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
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
3592A: Nameoki-----	Very limited: Flooding Depth to saturated zone Seepage Too clayey	1.00 1.00 1.00 0.50	Very limited: Flooding Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Too clayey Seepage	1.00 0.50 0.22
7037A: Worthen-----	Somewhat limited: Flooding	0.40	Somewhat limited: Flooding	0.40	Not limited	
7037B: Worthen-----	Somewhat limited: Flooding	0.40	Somewhat limited: Flooding	0.40	Not limited	
7053B: Bloomfield-----	Very limited: Seepage Too sandy Flooding	1.00 1.00 0.40	Very limited: Seepage Flooding	1.00 0.40	Very limited: Too sandy Seepage	1.00 1.00
7075B: Drury-----	Somewhat limited: Flooding	0.40	Somewhat limited: Flooding	0.40	Not limited	
7081A: Littleton-----	Very limited: Depth to saturated zone Flooding	1.00 0.40	Very limited: Depth to saturated zone Flooding	1.00 0.40	Very limited: Depth to saturated zone	1.00
7122B: Colp-----	Very limited: Depth to saturated zone Too clayey Flooding	1.00 1.00 0.40	Very limited: Depth to saturated zone Flooding	1.00 0.40	Very limited: Too clayey Hard to compact Depth to saturated zone	1.00 1.00 0.96
7122C: Colp-----	Very limited: Depth to saturated zone Too clayey Flooding	1.00 1.00 0.40	Very limited: Depth to saturated zone Flooding	1.00 0.40	Very limited: Too clayey Hard to compact Depth to saturated zone	1.00 1.00 0.96
7150A: Onarga-----	Very limited: Seepage Flooding	1.00 0.40	Very limited: Seepage Flooding	1.00 0.40	Somewhat limited: Seepage	0.22

Table 15b.--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
7151A: Ridgeville-----	Very limited: Depth to saturated zone Seepage Too sandy Flooding	1.00 1.00 1.00 0.40	Very limited: Depth to saturated zone Seepage Flooding	1.00 1.00 1.00 0.40	Very limited: Too sandy Depth to saturated zone Seepage	1.00 0.86 0.52
7338A: Hurst-----	Very limited: Depth to saturated zone Too clayey Flooding	1.00 1.00 0.40	Very limited: Depth to saturated zone Flooding	1.00 0.40	Very limited: Depth to saturated zone Too clayey Hard to compact	1.00 1.00 1.00
7430A: Raddle-----	Somewhat limited: Flooding	0.40	Somewhat limited: Flooding	0.40	Not limited	
7432A: Geff-----	Very limited: Depth to saturated zone Seepage Flooding	1.00 1.00 0.40	Very limited: Depth to saturated zone Flooding	1.00 0.40	Very limited: Depth to saturated zone	1.00
7434B: Ridgway-----	Very limited: Seepage Flooding	1.00 0.40	Very limited: Seepage Flooding	1.00 0.40	Very limited: Seepage	1.00
7445A: Newhaven-----	Very limited: Depth to saturated zone Seepage Flooding	1.00 1.00 0.40	Very limited: Depth to saturated zone Flooding	1.00 0.40	Somewhat limited: Depth to saturated zone	0.86
7741B: Oakville-----	Very limited: Seepage Too sandy Flooding	1.00 1.00 0.40	Very limited: Seepage Flooding	1.00 0.40	Very limited: Too sandy Seepage	1.00 1.00
7741C: Oakville-----	Very limited: Seepage Too sandy Flooding	1.00 1.00 0.40	Very limited: Seepage Flooding	1.00 0.40	Very limited: Too sandy Seepage	1.00 1.00
8038B: Rocher-----	Very limited: Flooding Seepage Too sandy	1.00 1.00 1.00	Very limited: Flooding Seepage	1.00 1.00	Somewhat limited: Seepage	0.52

Table 15b.--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
8070A: 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
8071L: 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
8078A: Arenzville-----	Very limited: Flooding Depth to saturated zone	 1.00 1.00 	Very limited: Flooding Depth to saturated zone	 1.00 1.00 	Not limited	
8180A: Dupo-----	Very limited: Flooding Depth to saturated zone Too clayey	 1.00 1.00 1.00	Very limited: Flooding Depth to saturated zone	 1.00 1.00 	Very limited: Depth to saturated zone Too clayey Hard to compact	 1.00 1.00 1.00
8183A: Shaffton-----	Very limited: Flooding Depth to saturated zone	 1.00 1.00 	Very limited: Flooding Depth to saturated zone Seepage	 1.00 1.00 1.00	Very limited: Seepage Depth to saturated zone	 1.00 1.00
8284A: Tice-----	Very limited: Flooding Depth to saturated zone Too clayey	 1.00 1.00 0.50	Very limited: Flooding Depth to saturated zone	 1.00 1.00 	Very limited: Hard to compact Depth to saturated zone Too clayey	 1.00 1.00 0.50
8302A: Ambraw-----	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
8304B: Landes-----	Very limited: Flooding Seepage Too sandy	 1.00 1.00 1.00	Very limited: Flooding Seepage	 1.00 1.00	Very limited: Seepage Too sandy	 1.00 0.50
8331A: Haymond-----	Very limited: Flooding	 1.00	Very limited: Flooding	 1.00	Not limited	

Table 15b.--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
8333A: 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
8334A: Birds-----	Very limited: Flooding Depth to saturated zone Ponding	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	1.00 1.00
8415A: Orion-----	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
8591A: Fults-----	Very limited: Flooding Depth to saturated zone Ponding Too clayey Seepage	1.00 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
8592A: Nameoki-----	Very limited: Flooding Depth to saturated zone Seepage Too clayey	1.00 1.00 1.00 0.50	Very limited: Flooding Depth to saturated zone	1.00 1.00	Very limited: Depth to saturated zone Too clayey Seepage	1.00 0.50 0.22
8674A: Dozaville-----	Very limited: Flooding Seepage	1.00 1.00	Very limited: Flooding	1.00	Not limited	
8831A: Fluvaquents, clayey	Very limited: Flooding Depth to saturated zone Ponding	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 Hard to compact	1.00 1.00 1.00

Table 16a.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
8D3:				
Hickory-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
8F:				
Hickory-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
31A:				
Pierron-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
35F:				
Bold-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
46A:				
Herrick-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
50A:				
Virden-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
79B:				
Menfro-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
79C2:				
Menfro-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
79C3:				
Menfro-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
79D2:				
Menfro-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
79D3:				
Menfro-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
79F: Menfro-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
79F3: Menfro-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
79G: Menfro-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
90A: Bethalto-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
113A: Oconee-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
113B: Oconee-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
119C3: Elco-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
119D2: Elco-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
119D3: Elco-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
165A: Weir-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
267A: Caseyville-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
267B: Caseyville-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
283B:				
Downsouth-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
283C2:				
Downsouth-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
384A:				
Edwardsville-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
385A:				
Mascoutah-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
438B:				
Aviston-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
438C2:				
Aviston-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
441B:				
Wakenda-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
441C2:				
Wakenda-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
474A:				
Piasa-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
477B:				
Winfield-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
477B3:				
Winfield-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
477C2:				
Winfield-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
477C3:				
Winfield-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
477D3: Winfield-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
491B: Ruma-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
491C2: Ruma-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
491D2: Ruma-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
491D3: Ruma-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
515B3: Bunkum-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
515C3: Bunkum-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
515D3: Bunkum-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
517A: Marine-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
517B: Marine-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
533: Urban land-----	Not rated		Not rated	
536: Dumps-----	Not rated		Not rated	
581B2: Tamalco-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
582B:				
Homen-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
582C2:				
Homen-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
585F:				
Negley-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
630D3:				
Navlys-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
657A:				
Burksville-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
701F:				
Menfro-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Hickory-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
702F:				
Ruma-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Hickory-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
703A:				
Pierron-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Burksville-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
801B:				
Orthents, silty----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
801D:				
Orthents, silty----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
802B: Orthents, loamy-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
802D: Orthents, loamy-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
864, 865: Pits-----	Not rated		Not rated	
867: Oil waste land-----	Not rated		Not rated	
878C3: Coulterville-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Grantfork-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
880E2: Coulterville-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Darmstadt-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
882B: Oconee-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Coulterville-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Darmstadt-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
885A: Virden-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Fosterburg-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
894A: Herrick-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
894A:				
Biddle-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Piassa-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
897D3:				
Bunkum-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Atlas-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
914C3:				
Atlas-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Grantfork-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
914D3:				
Atlas-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Grantfork-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
962D2:				
Sylvan-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Bold-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
962F2:				
Sylvan-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Bold-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
967F:				
Hickory-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Gosport-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
993A:				
Cowden-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Piasa-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
1070L:				
Beaucoup, undrained	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
2071L:				
Darwin-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Aquents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2079D:				
Menfro-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2113B:				
Oconee-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2122B:				
Colp-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2183A:				
Shaffton-----	Poor:		Poor:	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
Fluvents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2284A:				
Tice-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
2284A:				
Fluvents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2304B:				
Landes-----	Poor:		Poor:	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
Fluvents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2384B:				
Edwardsville-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2477B:				
Winfield-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Orthents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2592A:				
Nameoki-----	Poor:		Poor:	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
Fluvents-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
2741B:				
Oakville-----	Poor:		Fair:	
	Bottom layer	0.00	Bottom layer	0.06
	Thickest layer	0.00	Thickest layer	0.06
Psammments-----	Not rated		Not rated	
Urban land-----	Not rated		Not rated	
3038B:				
Rocher-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3070A:				
Beaucoup-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3070L:				
Beaucoup-----	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
3071L: Darwin-----	Poor: Bottom layer Thickest layer	 0.00 0.00	Poor: Bottom layer Thickest layer	 0.00 0.00
3333A: Wakeland-----	Poor: Bottom layer Thickest layer	 0.00 0.00	Poor: Bottom layer Thickest layer	 0.00 0.00
3334A: Birds-----	Poor: Bottom layer Thickest layer	 0.00 0.00	Poor: Bottom layer Thickest layer	 0.00 0.00
3336A: Wilbur-----	Poor: Bottom layer Thickest layer	 0.00 0.00	Poor: Bottom layer Thickest layer	 0.00 0.00
3415A: Orion-----	Poor: Bottom layer Thickest layer	 0.00 0.00	Poor: Bottom layer Thickest layer	 0.00 0.00
3428A: Coffeen-----	Poor: Bottom layer Thickest layer	 0.00 0.00	Poor: Bottom layer Thickest layer	 0.00 0.00
3451A: Lawson-----	Poor: Bottom layer Thickest layer	 0.00 0.00	Poor: Bottom layer Thickest layer	 0.00 0.00
3592A: Nameoki-----	Poor: Bottom layer Thickest layer	 0.00 0.00	Poor: Thickest layer Bottom layer	 0.00 0.00
7037A: Worthen-----	Poor: Bottom layer Thickest layer	 0.00 0.00	Poor: Bottom layer Thickest layer	 0.00 0.00
7037B: Worthen-----	Poor: Bottom layer Thickest layer	 0.00 0.00	Poor: Bottom layer Thickest layer	 0.00 0.00
7053B: Bloomfield-----	Poor: Bottom layer Thickest layer	 0.00 0.00	Fair: Bottom layer Thickest layer	 0.00 0.03
7075B: Drury-----	Poor: Bottom layer Thickest layer	 0.00 0.00	Poor: Bottom layer Thickest layer	 0.00 0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
7081A: Littleton-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
7122B: Colp-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
7122C: Colp-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
7150A: Onarga-----	Poor: Bottom layer Thickest layer	0.00 0.00	Fair: Thickest layer Bottom layer	0.00 0.08
7151A: Ridgeville-----	Poor: Bottom layer Thickest layer	0.00 0.00	Fair: Thickest layer Bottom layer	0.00 0.09
7338A: Hurst-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
7430A: Raddle-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
7432A: Geff-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Thickest layer Bottom layer	0.00 0.00
7434B: Ridgway-----	Poor: Bottom layer Thickest layer	0.00 0.00	Fair: Thickest layer Bottom layer	0.00 0.02
7445A: Newhaven-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Thickest layer Bottom layer	0.00 0.00
7741B: Oakville-----	Poor: Bottom layer Thickest layer	0.00 0.00	Fair: Thickest layer Bottom layer	0.06 0.06
7741C: Oakville-----	Poor: Bottom layer Thickest layer	0.00 0.00	Fair: Thickest layer Bottom layer	0.06 0.06
8038B: Rocher-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
8070A: Beaucoup-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
8071L: Darwin-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
8078A: Arenzville-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
8180A: Dupo-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
8183A: Shaffton-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Thickest layer Bottom layer	0.00 0.00
8284A: Tice-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
8302A: Ambraw-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Thickest layer Bottom layer	0.00 0.00
8304B: Landes-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Thickest layer Bottom layer	0.00 0.00
8331A: Haymond-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
8333A: Wakeland-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
8334A: Birds-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
8415A: Orion-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Bottom layer Thickest layer	0.00 0.00
8591A: Fults-----	Poor: Bottom layer Thickest layer	0.00 0.00	Poor: Thickest layer Bottom layer	0.00 0.00

Table 16a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
8592A: Nameoki-----	Poor:		Poor:	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
8674A: Dozaville-----	Poor:		Poor:	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
8831A: Fluvaquents, clayey	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 16b.--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 reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D3: Hickory-----	Fair: Low content of organic matter Too acid Too clayey	0.18 0.68 0.98	Poor: Low strength Shrink-swell	0.00 0.97	Fair: Slope Too clayey Rock fragments	0.04 0.58 0.97
8F: Hickory-----	Fair: Low content of organic matter Too acid Too clayey Water erosion	0.18 0.68 0.98 0.99	Poor: Slope Low strength Shrink-swell	0.00 0.00 0.98	Poor: Slope Too clayey Rock fragments	0.00 0.58 0.88
31A: Pierron-----	Poor: Too clayey Too acid Low content of organic matter Water erosion	0.00 0.08 0.18 0.37	Poor: Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.42	Poor: Depth to saturated zone Too clayey Too acid	0.00 0.00 0.50
35F: Bold-----	Fair: Low content of organic matter Carbonate content Water erosion	0.18 0.32 0.37	Poor: Slope	0.00	Poor: Slope Carbonate content	0.00 0.32
46A: Herrick-----	Fair: Too clayey Too acid Low content of organic matter Water erosion	0.08 0.68 0.68 0.99	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.14 0.47	Fair: Too clayey Depth to saturated zone	0.05 0.14
50A: Virden-----	Fair: Too clayey Water erosion	0.68 0.99	Poor: Depth to saturated zone Shrink-swell	0.00 0.18	Poor: Depth to saturated zone Too clayey	0.00 0.53
79B: Menfro-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.88 0.90	Fair: Shrink-swell	0.87	Good	

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
79C2: Menfro-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.88 0.90	Fair: Shrink-swell	0.90	Good	
79C3: Menfro-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.88 0.99	Fair: Shrink-swell	0.95	Good	
79D2: Menfro-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.88 0.90	Fair: Shrink-swell	0.90	Fair: Slope	0.04
79D3: Menfro-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.88 0.99	Fair: Shrink-swell	0.95	Fair: Slope	0.04
79F: Menfro-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.88 0.90	Poor: Slope Shrink-swell	0.00 0.94	Poor: Slope	0.00
79F3: Menfro-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.88 0.99	Poor: Slope Shrink-swell	0.00 0.95	Poor: Slope	0.00
79G: Menfro-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.88 0.90	Poor: Slope Shrink-swell	0.00 0.94	Poor: Slope	0.00
90A: Bethalto-----	Fair: Low content of organic matter Water erosion Too acid	0.50 0.90 0.97	Fair: Depth to saturated zone Shrink-swell	0.04 0.92	Fair: Depth to saturated zone	0.04

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113A: Oconee-----	Fair: Too clayey Low content of organic matter Water erosion Too acid	0.08 0.50 0.68 0.68	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.38	Fair: Depth to saturated zone Too clayey	0.04 0.05
113B: Oconee-----	Fair: Too clayey Low content of organic matter Water erosion Too acid	0.08 0.50 0.68 0.68	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.38	Fair: Depth to saturated zone Too clayey	0.04 0.05
119C3: Elco-----	Fair: Low content of organic matter Too clayey Water erosion	0.08 0.98 0.99	Poor: Low strength Shrink-swell Depth to saturated zone	0.00 0.47 0.98	Fair: Too clayey Depth to saturated zone	0.58 0.98
119D2: Elco-----	Fair: Low content of organic matter Water erosion	0.08 0.90	Poor: Low strength Shrink-swell Depth to saturated zone	0.00 0.47 0.98	Fair: Slope Depth to saturated zone	0.04 0.98
119D3: Elco-----	Fair: Low content of organic matter Too clayey Water erosion	0.08 0.98 0.99	Poor: Low strength Shrink-swell Depth to saturated zone	0.00 0.47 0.98	Fair: Slope Too clayey Depth to saturated zone	0.04 0.58 0.98
165A: Weir-----	Poor: Too clayey Low content of organic matter Water erosion Too acid	0.00 0.24 0.37 0.46	Poor: Depth to saturated zone Shrink-swell	0.00 0.66	Poor: Depth to saturated zone Too clayey Too acid	0.00 0.01 0.95
267A: Caseyville-----	Fair: Low content of organic matter Water erosion Too acid	0.50 0.68 0.84	Fair: Depth to saturated zone Shrink-swell	0.04 0.87	Fair: Depth to saturated zone	0.04
267B: Caseyville-----	Fair: Low content of organic matter Water erosion Too acid	0.50 0.68 0.84	Fair: Depth to saturated zone Shrink-swell	0.04 0.87	Fair: Depth to saturated zone	0.04

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
283B: Downsouth-----	Fair: Low content of organic matter Too acid Water erosion	0.88 0.97 0.99	Fair: Shrink-swell Depth to saturated zone	0.90 0.98	Fair: Depth to saturated zone	0.98
283C2: Downsouth-----	Fair: Low content of organic matter Too acid Water erosion	0.88 0.97 0.99	Fair: Shrink-swell Depth to saturated zone	0.89 0.98	Fair: Depth to saturated zone	0.98
384A: Edwardsville-----	Fair: Water erosion	0.99	Fair: Depth to saturated zone Shrink-swell	0.14 0.89	Fair: Depth to saturated zone	0.14
385A: Mascoutah-----	Fair: Too clayey Water erosion	0.98 0.99	Poor: Depth to saturated zone Shrink-swell	0.00 0.87	Poor: Depth to saturated zone Too clayey	0.00 0.98
438B: Aviston-----	Fair: Low content of organic matter Too acid Water erosion	0.88 0.97 0.99	Fair: Shrink-swell Depth to saturated zone	0.93 0.98	Fair: Depth to saturated zone	0.98
438C2: Aviston-----	Fair: Low content of organic matter Too acid Water erosion	0.88 0.97 0.99	Fair: Shrink-swell Depth to saturated zone	0.87 0.98	Fair: Depth to saturated zone	0.98
441B: Wakenda-----	Fair: Water erosion	0.99	Fair: Shrink-swell	0.90	Good	
441C2: Wakenda-----	Fair: Water erosion	0.99	Fair: Shrink-swell	0.87	Good	
474A: Piassa-----	Poor: Sodium content Too clayey Low content of organic matter Water erosion	0.00 0.02 0.50 0.68	Poor: Depth to saturated zone Low strength Shrink-swell	0.00 0.49	Poor: Depth to saturated zone Sodium content Too clayey	0.00 0.00 0.01

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
477B: Winfield-----	Fair: Low content of organic matter Water erosion Too acid Too clayey	0.18 0.68 0.68 0.98	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-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.68 0.99	Fair: Shrink-swell Depth to saturated zone	0.96 0.98	Fair: Depth to saturated zone	0.98
477C2: Winfield-----	Fair: Low content of organic matter Too acid Water erosion Too clayey	0.18 0.68 0.90 0.98	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-----	Fair: Low content of organic matter Too acid Water erosion	0.18 0.68 0.99	Fair: Shrink-swell Depth to saturated zone	0.96 0.98	Fair: Depth to saturated zone	0.98
477D3: Winfield-----	Fair: Low content of organic matter Too acid Too clayey Water erosion	0.18 0.68 0.98 0.99	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
491B: Ruma-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.68 0.90	Fair: Shrink-swell	0.90	Good	
491C2: Ruma-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.68 0.90	Fair: Shrink-swell	0.96	Good	
491D2: Ruma-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.68 0.90	Fair: Shrink-swell	0.96	Fair: Slope	0.04

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
491D3: Ruma-----	Fair: Low content of organic matter Too acid Water erosion	0.18 0.68 0.99	Fair: Shrink-swell	0.96	Fair: Slope	0.04
515B3: Bunkum-----	Fair: Low content of organic matter Too acid Too clayey Water erosion	0.50 0.68 0.98 0.99	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.14 0.99	Fair: Depth to saturated zone Too clayey	0.14 0.64
515C3: Bunkum-----	Fair: Low content of organic matter Too acid Too clayey Water erosion	0.50 0.68 0.98 0.99	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.14 0.99	Fair: Depth to saturated zone Too clayey	0.14 0.64
515D3: Bunkum-----	Fair: Low content of organic matter Too acid Too clayey Water erosion	0.50 0.68 0.98 0.99	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.14 0.99	Fair: Slope Depth to saturated zone Too clayey	0.04 0.14 0.64
517A: Marine-----	Fair: Too clayey Low content of organic matter Too acid Water erosion	0.02 0.18 0.32 0.68	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.75	Fair: Too clayey Depth to saturated zone Too acid	0.01 0.04 0.88
517B: Marine-----	Fair: Too clayey Low content of organic matter Too acid Water erosion	0.02 0.18 0.32 0.68	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.75	Fair: Too clayey Depth to saturated zone Too acid	0.01 0.04 0.88
533: Urban land-----	Not rated		Not rated		Not rated	
536: Dumps-----	Not rated		Not rated		Not rated	
581B2: Tamalco-----	Poor: Sodium content Low content of organic matter Too acid Water erosion	0.00 0.18 0.88 0.90	Fair: Shrink-swell	0.76	Poor: Sodium content Salinity	0.00 0.12

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
582B: Homen-----	Fair: Low content of organic matter Water erosion Too acid Too clayey	0.18 0.68 0.68 0.98	Poor: Low strength Shrink-swell Depth to saturated zone	0.00 0.93 0.98	Fair: Too clayey Depth to saturated zone	0.58 0.98
582C2: Homen-----	Fair: Low content of organic matter Too acid Water erosion Too clayey	0.18 0.68 0.90 0.98	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
585F: Negley-----	Fair: Low content of organic matter Too acid	0.50 0.54	Poor: Slope	0.00	Poor: Slope Rock fragments Hard to reclaim Too acid	0.00 0.00 0.92 0.98
630D3: Navlys-----	Fair: Low content of organic matter Water erosion	0.08 0.68	Fair: Depth to saturated zone	0.98	Fair: Slope Depth to saturated zone	0.04 0.98
657A: Burksville-----	Fair: Sodium content Water erosion Low content of organic matter Too clayey	0.22 0.37 0.50 0.98	Poor: Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.90	Poor: Depth to saturated zone Sodium content Too clayey	0.00 0.22 0.64
701F: Menfro-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.88 0.90	Poor: Slope Shrink-swell	0.00 0.94	Poor: Slope	0.00
Hickory-----	Fair: Low content of organic matter Too acid Too clayey Water erosion	0.18 0.54 0.98 0.99	Poor: Slope Shrink-swell	0.00 0.98	Poor: Slope Too clayey Rock fragments Too acid	0.00 0.58 0.88 0.98
702F: Ruma-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.68 0.90	Poor: Slope Shrink-swell	0.00 0.90	Poor: Slope	0.00

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
702F:						
Hickory-----	Fair:		Poor:		Poor:	
	Low content of organic matter	0.18	Slope	0.00	Slope	0.00
	Too acid	0.54	Low strength	0.00	Too clayey	0.58
	Too clayey	0.98	Shrink-swell	0.98	Rock fragments	0.88
	Water erosion	0.99			Too acid	0.98
703A:						
Pierron-----	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too acid	0.08	Shrink-swell	0.42	Too clayey	0.00
	Low content of organic matter	0.18			Too acid	0.50
	Water erosion	0.37				
Burksville-----	Fair:		Poor:		Poor:	
	Sodium content	0.22	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.37	Shrink-swell	0.90	Sodium content	0.22
	Low content of organic matter	0.50				
801B:						
Orthents, silty----	Fair:		Fair:		Fair:	
	Too acid	0.84	Depth to saturated zone	0.76	Depth to saturated zone	0.76
	Low content of organic matter	0.88	Shrink-swell	0.87		
	Water erosion	0.90				
801D:						
Orthents, silty----	Fair:		Fair:		Poor:	
	Too acid	0.84	Slope	0.50	Slope	0.00
	Low content of organic matter	0.88	Depth to saturated zone	0.76	Depth to saturated zone	0.76
	Water erosion	0.90	Shrink-swell	0.87		
802B:						
Orthents, loamy----	Fair:		Fair:		Good	
	Low content of organic matter	0.18	Shrink-swell	0.87		
802D:						
Orthents, loamy----	Fair:		Fair:		Poor:	
	Low content of organic matter	0.18	Slope	0.50	Slope	0.00
			Shrink-swell	0.87		
864, 865:						
Pits-----	Not rated		Not rated		Not rated	
867:						
Oil waste land-----	Not rated		Not rated		Not rated	
878C3:						
Coulterville-----	Fair:		Fair:		Fair:	
	Sodium content	0.22	Depth to saturated zone	0.04	Depth to saturated zone	0.04
	Low content of organic matter	0.50	Shrink-swell	0.96	Sodium content	0.22
	Water erosion	0.68				
	Too acid	0.97				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
878C3: Grantfork-----	Fair: Low content of organic matter Sodium content Too acid Too clayey Water erosion	0.12 0.22 0.97 0.98 0.99	Fair: Depth to saturated zone	0.04	Fair: Depth to saturated zone Sodium content Too clayey	0.04 0.22 0.57
880E2: Coulterville-----	Fair: Sodium content Low content of organic matter Water erosion Too acid Too clayey	0.22 0.50 0.68 0.97 0.98	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.87	Fair: Depth to saturated zone Sodium content Too clayey	0.04 0.22 0.64
Darmstadt-----	Poor: Low content of organic matter Sodium content Water erosion Too acid Too clayey	0.18 0.22 0.68 0.97 0.98	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.89	Poor: Sodium content Depth to saturated zone Too clayey	0.00 0.04 0.64
882B: Oconee-----	Fair: Too clayey Low content of organic matter Water erosion Too acid	0.08 0.50 0.68 0.68	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.38	Fair: Depth to saturated zone Too clayey	0.04 0.05
Coulterville-----	Fair: Sodium content Low content of organic matter Water erosion Too acid Too clayey	0.22 0.50 0.68 0.97 0.98	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.87	Fair: Depth to saturated zone Sodium content Too clayey	0.04 0.22 0.64
Darmstadt-----	Poor: Sodium content Low content of organic matter Water erosion Too acid Too clayey	0.00 0.18 0.68 0.97 0.98	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.89	Poor: Sodium content Depth to saturated zone Too clayey	0.00 0.04 0.64
885A: Virден-----	Fair: Too clayey Water erosion	0.32 0.99	Poor: Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.18	Poor: Depth to saturated zone Too clayey	0.00 0.25

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
885A: Fosterburg-----	Fair: Too clayey Sodium content Low content of organic matter Water erosion	0.08 0.22 0.88 0.99	Poor: Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.00 0.16	Poor: Depth to saturated zone Too clayey Sodium content	0.00 0.07 0.22
894A: Herrick-----	Fair: Too clayey Too acid Low content of organic matter Water erosion	0.08 0.68 0.68 0.99	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.14 0.47	Fair: Too clayey Depth to saturated zone	0.05 0.14
Biddle-----	Fair: Too clayey Sodium content Low content of organic matter Water erosion	0.08 0.22 0.50 0.99	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.14 0.28	Fair: Too clayey Depth to saturated zone Sodium content	0.05 0.14 0.22
Piasa-----	Poor: Sodium content Too clayey Low content of organic matter Water erosion	0.00 0.02 0.50 0.68	Poor: Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.00 0.49	Poor: Depth to saturated zone Sodium content Too clayey	0.00 0.00 0.01
897D3: Bunkum-----	Fair: Low content of organic matter Too acid Too clayey Water erosion	0.50 0.68 0.98 0.99	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.14 0.99	Fair: Slope Depth to saturated zone Too clayey	0.04 0.14 0.64
Atlas-----	Fair: Too clayey Low content of organic matter Too acid	0.02 0.18 0.88	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.22	Fair: Too clayey Depth to saturated zone Slope	0.01 0.04 0.04
914C3: Atlas-----	Fair: Too clayey Low content of organic matter Too acid	0.02 0.18 0.88	Poor: Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.22	Fair: Too clayey Depth to saturated zone	0.01 0.04
Grantfork-----	Fair: Low content of organic matter Sodium content Too acid Too clayey Water erosion	0.12 0.22 0.97 0.98 0.99	Poor: Low strength Depth to saturated zone	0.00 0.04	Fair: Depth to saturated zone Sodium content Too clayey	0.04 0.22 0.57

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
914D3:						
Atlas-----	Poor: Too clayey Low content of organic matter Too acid	0.00 0.18 0.88	Poor: Depth to saturated zone Shrink-swell	0.00 0.22	Poor: Depth to saturated zone Too clayey Slope	0.00 0.01 0.04
Grantfork-----	Fair: Low content of organic matter Sodium content Too acid Too clayey Water erosion	0.12 0.22 0.97 0.98 0.99	Fair: Depth to saturated zone	0.04	Fair: Depth to saturated zone Slope Sodium content Too clayey	0.04 0.04 0.22 0.57
962D2:						
Sylvan-----	Fair: Low content of organic matter Water erosion Carbonate content	0.18 0.68 0.92	Good		Fair: Slope	0.04
Bold-----	Fair: Low content of organic matter Carbonate content Water erosion	0.18 0.32 0.37	Good		Fair: Slope Carbonate content	0.04 0.32
962F2:						
Sylvan-----	Fair: Low content of organic matter Water erosion Carbonate content	0.18 0.68 0.92	Poor: Slope	0.00	Poor: Slope	0.00
Bold-----	Fair: Low content of organic matter Carbonate content Water erosion	0.18 0.32 0.37	Poor: Slope	0.00	Poor: Slope Carbonate content	0.00 0.32
967F:						
Hickory-----	Fair: Low content of organic matter Too acid Too clayey Water erosion	0.18 0.54 0.98 0.99	Poor: Slope Low strength Shrink-swell	0.00 0.00 0.98	Poor: Slope Too clayey Rock fragments Too acid	0.00 0.58 0.88 0.98
Gosport-----	Poor: Too clayey Low content of organic matter Droughty Too acid Depth to bedrock Water erosion	0.00 0.18 0.38 0.50 0.58 0.90	Poor: Depth to bedrock Slope Shrink-swell	0.00 0.00 0.12	Poor: Slope Too clayey Depth to bedrock Too acid	0.00 0.00 0.58 0.59

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
993A:						
Cowden-----	Fair:		Poor:		Poor:	
	Too clayey	0.08	Depth to	0.00	Depth to	0.00
	Low content of organic matter	0.50	saturated zone		saturated zone	
	Too acid	0.54	Low strength	0.00	Too clayey	0.05
	Water erosion	0.68	Shrink-swell	0.57		
Piasa-----	Poor:		Poor:		Poor:	
	Sodium content	0.00	Depth to	0.00	Depth to	0.00
	Too clayey	0.02	saturated zone		saturated zone	
	Low content of organic matter	0.50	Low strength	0.00	Sodium content	0.00
	Water erosion	0.68	Shrink-swell	0.49	Too clayey	0.01
1070L:						
Beaucoup, undrained	Fair:		Poor:		Poor:	
	Too clayey	0.98	Depth to	0.00	Depth to	0.00
			saturated zone		saturated zone	
			Shrink-swell	0.87	Too clayey	0.98
2071L:						
Darwin-----	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to	0.00	Too clayey	0.00
			saturated zone		Depth to	0.00
			Shrink-swell	0.00	saturated zone	
Aquents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2079D:						
Menfro-----	Fair:		Fair:		Fair:	
	Low content of organic matter	0.50	Shrink-swell	0.94	Slope	0.37
	Too acid	0.88				
	Water erosion	0.90				
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2113B:						
Ocone-----	Fair:		Fair:		Fair:	
	Too clayey	0.08	Depth to	0.04	Depth to	0.04
	Low content of organic matter	0.50	saturated zone		saturated zone	
	Too acid	0.54	Shrink-swell	0.38	Too clayey	0.05
	Water erosion	0.68			Too acid	0.98
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2122B:						
Colp-----	Poor:		Fair:		Poor:	
	Too clayey	0.00	Shrink-swell	0.17	Too clayey	0.00
	Low content of organic matter	0.18	Depth to	0.29	Depth to	0.29
	Water erosion	0.68	saturated zone		saturated zone	
	Too acid	0.97				

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2122B:						
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2183A:						
Shaffton-----	Fair: Low content of organic matter Too acid	0.50 0.54	Fair: Depth to saturated zone Shrink-swell	0.14 0.99	Fair: Depth to saturated zone Too acid	0.14 0.98
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2284A:						
Tice-----	Fair: Low content of organic matter	0.88	Fair: Depth to saturated zone Shrink-swell	0.14 0.87	Fair: Depth to saturated zone	0.14
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2304B:						
Landes-----	Fair: Low content of organic matter	0.18	Good		Good	
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2384B:						
Edwardsville-----	Fair: Water erosion	0.99	Fair: Depth to saturated zone Shrink-swell	0.14 0.89	Fair: Depth to saturated zone	0.14
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2477B:						
Winfield-----	Fair: Low content of organic matter Water erosion Too acid	0.18 0.68 0.68	Fair: Shrink-swell Depth to saturated zone	0.87 0.98	Fair: Depth to saturated zone	0.98
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2592A:						
Nameoki-----	Poor: Too clayey Low content of organic matter	0.00 0.50	Fair: Depth to saturated zone Shrink-swell	0.14 0.71	Poor: Too clayey Depth to saturated zone	0.00 0.14

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2592A: Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2741B: Oakville-----	Poor: Too sandy Wind erosion Low content of organic matter Droughty Too acid	0.00 0.00 0.08 0.23 0.88	Good		Poor: Too sandy	0.00
Psamments-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
3038B: Rocher-----	Fair: Too sandy Low content of organic matter Carbonate content	0.08 0.50 0.97	Good		Poor: Hard to reclaim Too sandy Carbonate content	0.00 0.08 0.97
3070A: Beaucoup-----	Fair: Too clayey	0.98	Poor: Depth to saturated zone Shrink-swell	0.00 0.87	Poor: Depth to saturated zone Too clayey	0.00 0.86
3070L: Beaucoup-----	Fair: Too clayey	0.98	Poor: Depth to saturated zone Shrink-swell	0.00 0.87	Poor: Depth to saturated zone Too clayey	0.00 0.86
3071L: Darwin-----	Poor: Too clayey	0.00	Poor: Depth to saturated zone Shrink-swell	0.00 0.00	Poor: Too clayey Depth to saturated zone	0.00 0.00
3333A: Wakeland-----	Fair: Water erosion Low content of organic matter	0.37 0.50	Fair: Depth to saturated zone	0.04	Fair: Depth to saturated zone	0.04
3334A: Birds-----	Fair: Low content of organic matter Water erosion	0.50 0.68	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone	0.00
3336A: Wilbur-----	Fair: Low content of organic matter Water erosion	0.50 0.68	Fair: Depth to saturated zone	0.32	Fair: Depth to saturated zone	0.32

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3415A: Orion-----	Fair: Water erosion Low content of organic matter	0.37 0.50	Fair: Depth to saturated zone	0.04	Fair: Depth to saturated zone	0.04
3428A: Coffeen-----	Fair: Water erosion	0.68	Fair: Depth to saturated zone	0.14	Fair: Depth to saturated zone	0.14
3451A: Lawson-----	Fair: Low content of organic matter Water erosion	0.50 0.68	Poor: Low strength Depth to saturated zone	0.00 0.14	Fair: Depth to saturated zone	0.14
3592A: Nameoki-----	Poor: Too clayey Low content of organic matter	0.00 0.50	Fair: Depth to saturated zone Shrink-swell	0.14 0.71	Poor: Too clayey Depth to saturated zone	0.00 0.14
7037A: Worthen-----	Fair: Water erosion	0.68	Poor: Low strength	0.00	Good	
7037B: Worthen-----	Fair: Water erosion	0.68	Poor: Low strength	0.00	Good	
7053B: Bloomfield-----	Poor: Too sandy Wind erosion Low content of organic matter Too acid	0.00 0.00 0.50 0.97	Good		Poor: Too sandy	0.00
7075B: Drury-----	Fair: Low content of organic matter Water erosion	0.18 0.68	Fair: Low strength	0.22	Good	
7081A: Littleton-----	Fair: Water erosion Low content of organic matter	0.68 0.88	Poor: Low strength Depth to saturated zone	0.00 0.14	Fair: Depth to saturated zone	0.14
7122B: Colp-----	Poor: Too clayey Low content of organic matter Water erosion Too acid	0.00 0.18 0.68 0.97	Fair: Shrink-swell Depth to saturated zone	0.17 0.29	Poor: Too clayey Depth to saturated zone	0.00 0.29

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7122C: Colp-----	Poor: Too clayey Low content of organic matter Too acid	0.00 0.18 0.97	Fair: Shrink-swell Depth to saturated zone	0.12 0.29	Poor: Too clayey Depth to saturated zone	0.00 0.29
7150A: Onarga-----	Fair: Low content of organic matter Too acid	0.50 0.88	Good		Good	
7151A: Ridgeville-----	Fair: Low content of organic matter Too acid	0.18 0.95	Fair: Depth to saturated zone	0.53	Fair: Depth to saturated zone Hard to reclaim	0.53 0.84
7338A: Hurst-----	Poor: Too clayey Too acid Low content of organic matter Water erosion	0.00 0.16 0.18 0.68	Fair: Depth to saturated zone Shrink-swell	0.04 0.17	Poor: Too clayey Depth to saturated zone	0.00 0.04
7430A: Raddle-----	Fair: Water erosion	0.68	Good		Good	
7432A: Geff-----	Fair: Too acid Water erosion Low content of organic matter	0.54 0.68 0.88	Fair: Depth to saturated zone	0.14	Fair: Depth to saturated zone Too acid	0.14 0.98
7434B: Ridgway-----	Fair: Low content of organic matter Too acid Water erosion	0.50 0.68 0.90	Good		Good	
7445A: Newhaven-----	Fair: Too acid	0.88	Fair: Depth to saturated zone Shrink-swell	0.53 0.92	Fair: Depth to saturated zone	0.53
7741B: Oakville-----	Poor: Too sandy Wind erosion Low content of organic matter Droughty Too acid	0.00 0.00 0.08 0.39 0.88	Good		Poor: Too sandy	0.00

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7741C: Oakville-----	Poor: Too sandy Wind erosion Low content of organic matter Droughty Too acid	0.00 0.00 0.08 0.39 0.88	Good		Poor: Too sandy	0.00
8038B: Rocher-----	Fair: Too sandy Low content of organic matter Carbonate content	0.08 0.50 0.97	Good		Poor: Hard to reclaim Too sandy Carbonate content	0.00 0.08 0.97
8070A: Beaucoup-----	Fair: Too clayey	0.98	Poor: Depth to saturated zone Shrink-swell	0.00 0.87	Poor: Depth to saturated zone Too clayey	0.00 0.86
8071L: Darwin-----	Poor: Too clayey	0.00	Poor: Depth to saturated zone Shrink-swell	0.00 0.00	Poor: Too clayey Depth to saturated zone	0.00 0.00
8078A: Arenzville-----	Fair: Water erosion	0.68	Good		Good	
8180A: Dupo-----	Fair: Water erosion	0.37	Fair: Depth to saturated zone Shrink-swell	0.04 0.61	Fair: Depth to saturated zone	0.04
8183A: Shaffton-----	Fair: Low content of organic matter Too acid	0.50 0.54	Fair: Depth to saturated zone Shrink-swell	0.14 0.99	Fair: Depth to saturated zone Too acid	0.14 0.98
8284A: Tice-----	Fair: Low content of organic matter Too acid	0.88 0.97	Fair: Depth to saturated zone Shrink-swell	0.14 0.87	Fair: Depth to saturated zone	0.14
8302A: Ambraw-----	Fair: Low content of organic matter Too acid	0.50 0.97	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone	0.00
8304B: Landes-----	Fair: Low content of organic matter	0.18	Good		Good	

Table 16b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8331A: Haymond-----	Fair: Low content of organic matter Water erosion	0.50 0.68	Good		Good	
8333A: Wakeland-----	Fair: Water erosion Low content of organic matter	0.37 0.50	Fair: Depth to saturated zone	0.04	Fair: Depth to saturated zone	0.04
8334A: Birds-----	Fair: Low content of organic matter Water erosion	0.50 0.68	Poor: Depth to saturated zone	0.00	Poor: Depth to saturated zone	0.00
8415A: Orion-----	Fair: Water erosion Low content of organic matter	0.37 0.50	Fair: Depth to saturated zone	0.04	Fair: Depth to saturated zone	0.04
8591A: Fults-----	Poor: Too clayey Low content of organic matter	0.00 0.88	Poor: Depth to saturated zone Shrink-swell	0.00 0.82	Poor: Depth to saturated zone Too clayey	0.00 0.00
8592A: Nameoki-----	Poor: Too clayey Low content of organic matter	0.00 0.50	Fair: Depth to saturated zone Shrink-swell	0.14 0.71	Poor: Too clayey Depth to saturated zone	0.00 0.14
8674A: Dozaville-----	Fair: Water erosion	0.68	Good		Good	
8831A: Fluvaquents, clayey	Poor: Too clayey	0.00	Poor: Depth to saturated zone Shrink-swell	0.00 0.12	Poor: Depth to saturated zone Too clayey	0.00 0.00

Table 17a.--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
8D3: Hickory-----	Somewhat limited: Seepage Slope	0.72 0.02	Somewhat limited: Piping	0.09	Very limited: Depth to water	1.00
8F: Hickory-----	Somewhat limited: Seepage Slope	0.72 0.34	Somewhat limited: Piping	0.21	Very limited: Depth to water	1.00
31A: Pierron-----	Somewhat limited: Seepage	0.04	Very limited: Depth to saturated zone Ponding	1.00 1.00	Somewhat limited: Cutbanks cave Slow refill	0.50 0.28
35F: Bold-----	Somewhat limited: Seepage Slope	0.72 0.36	Very limited: Piping	1.00	Very limited: Depth to water	1.00
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
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
79B: Menfro-----	Somewhat limited: Seepage	0.72	Somewhat limited: Piping	0.08	Very limited: Depth to water	1.00
79C2: Menfro-----	Somewhat limited: Seepage	0.72	Somewhat limited: Piping	0.09	Very limited: Depth to water	1.00
79C3: Menfro-----	Somewhat limited: Seepage	0.72	Somewhat limited: Piping	0.07	Very limited: Depth to water	1.00
79D2: Menfro-----	Somewhat limited: Seepage Slope	0.72 0.02	Somewhat limited: Piping	0.09	Very limited: Depth to water	1.00
79D3: Menfro-----	Somewhat limited: Seepage Slope	0.72 0.02	Somewhat limited: Piping	0.07	Very limited: Depth to water	1.00

Table 17a.--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
79F:						
Menfro-----	Somewhat limited:		Somewhat limited:		Very limited:	
	Seepage	0.72	Piping	0.14	Depth to water	1.00
	Slope	0.36				
79F3:						
Menfro-----	Somewhat limited:		Somewhat limited:		Very limited:	
	Seepage	0.72	Piping	0.07	Depth to water	1.00
	Slope	0.36				
79G:						
Menfro-----	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.99	Piping	0.14	Depth to water	1.00
	Seepage	0.72				
90A:						
Bethalto-----	Somewhat limited:		Very limited:		Somewhat limited:	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.68	Cutbanks cave	0.10
113A:						
Oconee-----	Somewhat limited:		Very limited:		Somewhat limited:	
	Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
					Cutbanks cave	0.10
113B:						
Oconee-----	Somewhat limited:		Very limited:		Somewhat limited:	
	Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
					Cutbanks cave	0.10
119C3:						
Elco-----	Somewhat limited:		Somewhat limited:		Very limited:	
	Seepage	0.72	Depth to saturated zone	0.68	Depth to water	1.00
119D2:						
Elco-----	Somewhat limited:		Somewhat limited:		Very limited:	
	Seepage	0.72	Depth to saturated zone	0.68	Depth to water	1.00
	Slope	0.02	Piping	0.04		
119D3:						
Elco-----	Somewhat limited:		Somewhat limited:		Very limited:	
	Seepage	0.72	Depth to saturated zone	0.68	Depth to water	1.00
	Slope	0.02				
165A:						
Weir-----	Not limited		Very limited:		Very limited:	
			Depth to saturated zone	1.00	Depth to water	1.00
267A:						
Caseyville-----	Somewhat limited:		Very limited:		Somewhat limited:	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.69	Cutbanks cave	0.10

Table 17a.--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
283B: Downsouth-----	Somewhat limited: Seepage	0.72	Somewhat limited: Depth to saturated zone Piping	0.68 0.36	Somewhat limited: Slow refill Depth to water Cutbanks cave	0.28 0.14 0.10
283C2: Downsouth-----	Somewhat limited: Seepage	0.72	Somewhat limited: Depth to saturated zone Piping	0.68 0.40	Somewhat limited: Slow refill Depth to water Cutbanks cave	0.28 0.14 0.10
384A: Edwardsville-----	Somewhat limited: Seepage	0.72	Very limited: Depth to saturated zone Piping	1.00 0.71	Somewhat limited: Slow refill Cutbanks cave	0.28 0.10
385A: Mascoutah-----	Somewhat limited: Seepage	0.72	Very limited: Ponding Depth to saturated zone Piping	1.00 1.00 0.20	Somewhat limited: Slow refill Cutbanks cave	0.28 0.10
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
438C2: Aviston-----	Somewhat limited: Seepage	0.72	Somewhat limited: Depth to saturated zone Piping	0.68 0.29	Somewhat limited: Slow refill Depth to water Cutbanks cave	0.28 0.14 0.10
441B: Wakenda-----	Somewhat limited: Seepage	0.72	Somewhat limited: Piping	0.31	Very limited: Depth to water	1.00
441C2: Wakenda-----	Somewhat limited: Seepage	0.72	Somewhat limited: Piping	0.31	Very limited: Depth to water	1.00
474A: Piassa-----	Not limited		Very limited: Ponding Depth to saturated zone Piping	1.00 1.00 1.00	Very limited: Depth to water	1.00

Table 17a.--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
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 0.40	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 0.45	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 0.20	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 0.40	Somewhat limited: Slow refill Depth to water Cutbanks cave	0.28 0.14 0.10
491B: Ruma-----	Somewhat limited: Seepage	0.72	Somewhat limited: Piping	0.40	Very limited: Depth to water	1.00
491C2: Ruma-----	Somewhat limited: Seepage	0.72	Somewhat limited: Piping	0.47	Very limited: Depth to water	1.00
491D2: Ruma-----	Somewhat limited: Seepage Slope	0.72 0.02	Somewhat limited: Piping	0.47	Very limited: Depth to water	1.00
491D3: Ruma-----	Somewhat limited: Seepage Slope	0.72 0.02	Somewhat limited: Piping	0.09	Very limited: Depth to water	1.00
515B3: 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
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

Table 17a.--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
515D3: Bunkum-----	Somewhat limited: Seepage Slope	0.04 0.02	Very limited: Depth to saturated zone Piping	1.00 0.50	Somewhat limited: Slow refill Cutbanks cave	0.96 0.10
517A: Marine-----	Somewhat limited: Seepage	0.04	Very limited: Depth to saturated zone	1.00	Somewhat limited: Cutbanks cave Slow refill	0.50 0.28
517B: Marine-----	Somewhat limited: Seepage	0.04	Very limited: Depth to saturated zone	1.00	Somewhat limited: Cutbanks cave Slow refill	0.50 0.28
533: Urban land-----	Not rated		Not rated		Not rated	
536: Dumps-----	Not rated		Not rated		Not rated	
581B2: Tamalco-----	Somewhat limited: Seepage	0.04	Very limited: Piping Depth to saturated zone	1.00 0.02	Somewhat limited: Slow refill Depth to water Salty water Cutbanks cave	0.96 0.68 0.12 0.10
582B: Homen-----	Somewhat limited: Seepage	0.04	Somewhat limited: Depth to saturated zone Piping	0.68 0.34	Very limited: Depth to water	1.00
582C2: Homen-----	Somewhat limited: Seepage	0.04	Somewhat limited: Depth to saturated zone Piping	0.68 0.30	Very limited: Depth to water	1.00
585F: Negley-----	Very limited: Seepage Slope	1.00 0.36	Not limited		Very limited: Depth to water	1.00
630D3: Navlys-----	Somewhat limited: Seepage Slope	0.72 0.02	Somewhat limited: Depth to saturated zone Piping	0.68 0.66	Somewhat limited: Slow refill Depth to water Cutbanks cave	0.28 0.14 0.10
657A: Burksville-----	Not limited		Very limited: Depth to saturated zone Piping Ponding	1.00 1.00 1.00	Somewhat limited: Slow refill Cutbanks cave	0.96 0.10

Table 17a.--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
701F:						
Menfro-----	Somewhat limited: Seepage Slope	0.72 0.36	Somewhat limited: Piping	0.14	Very limited: Depth to water	1.00
Hickory-----	Somewhat limited: Seepage Slope	0.72 0.36	Somewhat limited: Piping	0.21	Very limited: Depth to water	1.00
702F:						
Ruma-----	Somewhat limited: Seepage Slope	0.72 0.36	Somewhat limited: Piping	0.40	Very limited: Depth to water	1.00
Hickory-----	Somewhat limited: Seepage Slope	0.72 0.36	Somewhat limited: Piping	0.21	Very limited: Depth to water	1.00
703A:						
Pierron-----	Not limited		Very limited: Ponding Depth to saturated zone	1.00 1.00	Somewhat limited: Cutbanks cave Slow refill	0.50 0.28
Burksville-----	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
801B:						
Orthents, silty----	Somewhat limited: Seepage	0.54	Somewhat limited: Depth to saturated zone Piping	0.95 0.88	Somewhat limited: Slow refill Cutbanks cave Depth to water	0.46 0.10 0.02
801D:						
Orthents, silty----	Somewhat limited: Seepage Slope	0.54 0.12	Somewhat limited: Depth to saturated zone Piping	0.95 0.88	Somewhat limited: Slow refill Cutbanks cave Depth to water	0.46 0.10 0.02
802B:						
Orthents, loamy----	Somewhat limited: Seepage	0.04	Somewhat limited: Piping	0.18	Somewhat limited: Depth to water Slow refill Cutbanks cave	0.99 0.96 0.10
802D:						
Orthents, loamy----	Somewhat limited: Slope Seepage	0.12 0.04	Somewhat limited: Piping	0.18	Somewhat limited: Depth to water Slow refill Cutbanks cave	0.99 0.96 0.10
864, 865:						
Pits-----	Not rated		Not rated		Not rated	
867:						
Oil waste land-----	Not rated		Not rated		Not rated	

Table 17a.--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
878C3:						
Coulterville-----	Somewhat limited: Seepage	0.04	Very limited: Depth to saturated zone Piping	1.00 1.00	Somewhat limited: Slow refill Cutbanks cave	0.96 0.10
Grantfork-----	Somewhat limited: Seepage	0.04	Very limited: Depth to saturated zone Piping	1.00 1.00	Somewhat limited: Slow refill Cutbanks cave	0.96 0.10
880E2:						
Coulterville-----	Somewhat limited: Seepage	0.04	Very limited: Depth to saturated zone Piping	1.00 1.00	Somewhat limited: Slow refill Cutbanks cave	0.96 0.10
Darmstadt-----	Not limited		Very limited: Depth to saturated zone Piping	1.00 1.00	Very limited: Slow refill Cutbanks cave	1.00 0.10
882B:						
Oconee-----	Somewhat limited: Seepage	0.04	Very limited: Depth to saturated zone	1.00	Somewhat limited: Slow refill Cutbanks cave	0.96 0.10
Coulterville-----	Somewhat limited: Seepage	0.04	Very limited: Depth to saturated zone Piping	1.00 1.00	Somewhat limited: Slow refill Cutbanks cave	0.96 0.10
Darmstadt-----	Not limited		Very limited: Depth to saturated zone Piping	1.00 1.00	Very limited: Slow refill Cutbanks cave	1.00 0.10
885A:						
Virden-----	Somewhat limited: Seepage	0.04	Very limited: Depth to saturated zone Ponding	1.00 1.00	Somewhat limited: Slow refill Cutbanks cave	0.28 0.10
Fosterburg-----	Not limited		Very limited: Depth to saturated zone Piping	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: Depth to water	1.00

Table 17a.--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
894A: Piasa-----	Not limited		Very limited: Ponding Depth to saturated zone Piping	1.00 1.00 1.00	Very limited: Depth to water	1.00
897D3: Bunkum-----	Somewhat limited: Seepage Slope	0.04 0.02	Very limited: Depth to saturated zone Piping	1.00 1.00 0.37	Somewhat limited: Slow refill Cutbanks cave	0.96 0.10
Atlas-----	Somewhat limited: Slope	0.02	Very limited: Depth to saturated zone Hard to pack	1.00 1.00 0.55	Very limited: Slow refill Cutbanks cave	1.00 0.10
914C3: Atlas-----	Not limited		Very limited: Depth to saturated zone Hard to pack	1.00 1.00 0.55	Very limited: Slow refill Cutbanks cave	1.00 0.10
Grantfork-----	Somewhat limited: Seepage	0.04	Very limited: Depth to saturated zone Piping	1.00 1.00 1.00	Somewhat limited: Slow refill Cutbanks cave	0.96 0.10
914D3: Atlas-----	Somewhat limited: Slope	0.02	Very limited: Depth to saturated zone Hard to pack	1.00 1.00 0.54	Very limited: Slow refill Cutbanks cave	1.00 0.10
Grantfork-----	Somewhat limited: Seepage Slope	0.04 0.02	Very limited: Depth to saturated zone Piping	1.00 1.00 1.00	Somewhat limited: Slow refill Cutbanks cave	0.96 0.10
962D2: Sylvan-----	Somewhat limited: Seepage Slope	0.72 0.02	Somewhat limited: Piping	0.88	Very limited: Depth to water	1.00
Bold-----	Somewhat limited: Seepage Slope	0.72 0.02	Very limited: Piping	1.00	Very limited: Depth to water	1.00
962F2: Sylvan-----	Somewhat limited: Seepage Slope	0.72 0.36	Somewhat limited: Piping	0.88	Very limited: Depth to water	1.00
Bold-----	Somewhat limited: Seepage Slope	0.72 0.36	Very limited: Piping	1.00	Very limited: Depth to water	1.00

Table 17a.--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
967F:						
Hickory-----	Somewhat limited: Seepage Slope	0.72 0.36	Somewhat limited: Piping	0.21	Very limited: Depth to water	1.00
Gosport-----	Somewhat limited: Slope Depth to bedrock	0.36 0.11	Somewhat limited: Thin layer Hard to pack	0.85 0.85	Very limited: Depth to water	1.00
993A:						
Cowden-----	Somewhat limited: Seepage	0.04	Very limited: Depth to saturated zone Ponding	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
1070L:						
Beaucoup, undrained	Somewhat limited: Seepage	0.03	Very limited: Ponding Depth to saturated zone Piping	1.00 1.00 0.32	Somewhat limited: Slow refill Cutbanks cave	0.97 0.10
2071L:						
Darwin-----	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
Aquents-----	Not limited		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2079D:						
Menfro-----	Somewhat limited: Seepage Slope	0.72 0.01	Somewhat limited: Piping	0.14	Very limited: Depth to water	1.00
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2113B:						
Oconee-----	Not limited		Very limited: Depth to saturated zone	1.00	Very limited: Slow refill Cutbanks cave	1.00 0.10
Orthents-----	Not limited		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2122B:						
Colp-----	Not limited		Very limited: Depth to saturated zone Hard to pack	1.00 0.68	Very limited: Depth to water	1.00

Table 17a.--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
2122B:						
Orthents-----	Not limited		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2183A:						
Shaffton-----	Very limited: Seepage	1.00	Very limited: Depth to saturated zone Piping	1.00 0.94	Very limited: Cutbanks cave	1.00
Fluents-----	Not limited		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2284A:						
Tice-----	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
Fluents-----	Not limited		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2304B:						
Landes-----	Very limited: Seepage	1.00	Not limited		Very limited: Depth to water	1.00
Fluents-----	Not limited		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2384B:						
Edwardsville-----	Somewhat limited: Seepage	0.72	Very limited: Depth to saturated zone Piping	1.00 0.73	Somewhat limited: Slow refill Cutbanks cave	0.28 0.10
Orthents-----	Not limited		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2477B:						
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
Orthents-----	Not limited		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2592A:						
Nameoki-----	Very limited: Seepage	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Cutbanks cave	1.00
Fluents-----	Not limited		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	

Table 17a.--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
2741B: Oakville-----	Very limited: Seepage	1.00	Somewhat limited: Seepage	0.06	Very limited: Depth to water	1.00
Psammets-----	Not limited		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
3038B: Rocher-----	Very limited: Seepage	1.00	Very limited: Piping	1.00	Very limited: Depth to water	1.00
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	0.72	Very limited: Ponding Depth to saturated zone Piping	1.00 1.00 0.24	Somewhat limited: Slow refill Cutbanks cave	0.28 0.10
3071L: Darwin-----	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
3333A: Wakeland-----	Somewhat limited: Seepage	0.72	Very limited: Depth to saturated zone Piping	1.00 1.00	Somewhat limited: Slow refill Cutbanks cave	0.28 0.10
3334A: Birds-----	Somewhat limited: Seepage	0.04	Very limited: Ponding Depth to saturated zone Piping	1.00 1.00 0.82	Somewhat limited: Slow refill Cutbanks cave	0.96 0.10
3336A: Wilbur-----	Somewhat limited: Seepage	0.72	Very limited: Depth to saturated zone Piping	1.00 1.00	Somewhat limited: Slow refill Cutbanks cave	0.28 0.10
3415A: Orion-----	Somewhat limited: Seepage	0.72	Very limited: Depth to saturated zone Piping	1.00 1.00	Somewhat limited: Slow refill Cutbanks cave	0.28 0.10

Table 17a.--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
3428A: Coffeen-----	Very limited: Seepage	1.00	Very limited: Depth to saturated zone Piping	1.00 1.00	Somewhat limited: Cutbanks cave	0.10
3451A: Lawson-----	Somewhat limited: Seepage	0.72	Very limited: Depth to saturated zone Piping	1.00 0.75	Somewhat limited: Slow refill Cutbanks cave	0.28 0.10
3592A: Nameoki-----	Very limited: Seepage	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Cutbanks cave	1.00
7037A: Worthen-----	Somewhat limited: Seepage	0.72	Somewhat limited: Piping	0.95	Very limited: Depth to water	1.00
7037B: Worthen-----	Somewhat limited: Seepage	0.72	Somewhat limited: Piping	0.95	Very limited: Depth to water	1.00
7053B: Bloomfield-----	Very limited: Seepage	1.00	Somewhat limited: Seepage	0.03	Very limited: Depth to water	1.00
7075B: Drury-----	Somewhat limited: Seepage	0.72	Somewhat limited: Piping	0.88	Very limited: Depth to 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
7122B: Colp-----	Not limited		Very limited: Depth to saturated zone Hard to pack	1.00 0.68	Very limited: Depth to water	1.00
7122C: Colp-----	Not limited		Very limited: Depth to saturated zone Hard to pack	1.00 0.81	Very limited: Depth to water	1.00
7150A: Onarga-----	Very limited: Seepage	1.00	Somewhat limited: Seepage	0.08	Very limited: Depth to water	1.00
7151A: Ridgeville-----	Very limited: Seepage	1.00	Very limited: Depth to saturated zone Seepage	1.00 0.09	Very limited: Cutbanks cave Depth to water	1.00 0.01

Table 17a.--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
7338A: Hurst-----	Not limited		Very limited: Depth to saturated zone Hard to pack	1.00 0.77	Very limited: Depth to water	1.00
7430A: Raddle-----	Somewhat limited: Seepage	0.72	Somewhat limited: Piping	0.88	Very limited: Depth to water	1.00
7432A: Geff-----	Very limited: Seepage	1.00	Very limited: Depth to saturated zone Piping Seepage	1.00 0.79 0.01	Very limited: Cutbanks cave	1.00
7434B: Ridgway-----	Very limited: Seepage	1.00	Very limited: Piping Seepage	1.00 0.02	Very limited: Depth to water	1.00
7445A: Newhaven-----	Very limited: Seepage	1.00	Very limited: Depth to saturated zone Piping Seepage	1.00 0.99 0.01	Very limited: Cutbanks cave Depth to water	1.00 0.01
7741B: Oakville-----	Very limited: Seepage	1.00	Somewhat limited: Seepage	0.06	Very limited: Depth to water	1.00
7741C: Oakville-----	Very limited: Seepage	1.00	Somewhat limited: Seepage	0.06	Very limited: Depth to water	1.00
8038B: Rocher-----	Very limited: Seepage	1.00	Very limited: Piping	1.00	Very limited: Depth to water	1.00
8070A: Beaucoup-----	Somewhat limited: Seepage	0.72	Very limited: Ponding Depth to saturated zone Piping	1.00 1.00 0.24	Somewhat limited: Slow refill Cutbanks cave	0.28 0.10
8071L: Darwin-----	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
8078A: Arenzville-----	Somewhat limited: Seepage	0.72	Somewhat limited: Piping	0.94	Very limited: Depth to water	1.00

Table 17a.--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
8180A: Dupo-----	Somewhat limited: Seepage	0.72	Very limited: Depth to saturated zone Hard to pack	1.00 0.32	Very limited: Depth to water	1.00
8183A: Shaffton-----	Very limited: Seepage	1.00	Very limited: Depth to saturated zone Piping	1.00 0.94	Very limited: Cutbanks cave	1.00
8284A: Tice-----	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
8302A: Ambraw-----	Somewhat limited: Seepage	0.54	Very limited: Ponding Depth to saturated zone Piping	1.00 1.00 0.20	Somewhat limited: Slow refill Cutbanks cave	0.28 0.10
8304B: Landes-----	Very limited: Seepage	1.00	Not limited		Very limited: Depth to water	1.00
8331A: Haymond-----	Somewhat limited: Seepage	0.72	Very limited: Piping	1.00	Very limited: Depth to water	1.00
8333A: Wakeland-----	Somewhat limited: Seepage	0.72	Very limited: Depth to saturated zone Piping	1.00 1.00	Somewhat limited: Slow refill Cutbanks cave	0.28 0.10
8334A: Birds-----	Somewhat limited: Seepage	0.04	Very limited: Ponding Depth to saturated zone Piping	1.00 1.00 0.82	Somewhat limited: Slow refill Cutbanks cave	0.96 0.10
8415A: Orion-----	Somewhat limited: Seepage	0.72	Very limited: Depth to saturated zone Piping	1.00 1.00	Somewhat limited: Slow refill Cutbanks cave	0.28 0.10
8591A: Fults-----	Very limited: Seepage	1.00	Very limited: Ponding Depth to saturated zone	1.00 1.00	Very limited: Cutbanks cave	1.00
8592A: Nameoki-----	Very limited: Seepage	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Cutbanks cave	1.00

Table 17a.--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
8674A: Dozaville-----	Very limited: Seepage	1.00	Very limited: Piping Seepage	1.00 0.01	Very limited: Depth to water	1.00
8831A: Fluvaquents, clayey	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

Table 17b.--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	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D3: Hickory-----	Very limited: Slope >8%	1.00	Very limited: Slope >8% K factor <0.35 to >0.20	1.00 0.56	Somewhat limited: 8 to 15% slope Cutbanks cave	0.96 0.10
8F: Hickory-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Very limited: >15% slope Cutbanks cave	1.00 0.10
31A: Pierron-----	Not limited		Very limited: K factor >0.35 Ponding <36 inches to water table	1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 0.50
35F: Bold-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Very limited: >15% slope Cutbanks cave	1.00 0.50
46A: Herrick-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
50A: Viriden-----	Not limited		Very limited: K factor >0.35 Ponding <36 inches to water table	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10
79B: Menfro-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: K factor >0.35 Slope >1% but <8%	1.00 0.36	Somewhat limited: Cutbanks cave	0.10
79C2: Menfro-----	Somewhat limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Somewhat limited: Cutbanks cave	0.10
79C3: Menfro-----	Somewhat limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Somewhat limited: Cutbanks cave	0.10
79D2: Menfro-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Somewhat limited: 8 to 15% slope Cutbanks cave	0.96 0.10

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
79D3: Menfro-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Somewhat limited: 8 to 15% slope Cutbanks cave	0.96 0.10
79F: Menfro-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Very limited: >15% slope Cutbanks cave	1.00 0.10
79F3: Menfro-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Very limited: >15% slope Cutbanks cave	1.00 0.10
79G: Menfro-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Very limited: >15% slope Cutbanks cave	1.00 0.10
90A: Bethalto-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
113A: Oconee-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
113B: Oconee-----	Somewhat limited: Slope >1% but <8%	0.25	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.25	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
119C3: Elco-----	Somewhat limited: Slope >1% but <8%	0.99	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.99	Somewhat limited: Depth to saturated zone Cutbanks cave	0.99 0.10
119D2: Elco-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8% <36 inches to water table	1.00 1.00 1.00	Somewhat limited: Depth to saturated zone 8 to 15% slope Cutbanks cave	0.99 0.96 0.10
119D3: Elco-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8% <36 inches to water table	1.00 1.00 1.00	Somewhat limited: Depth to saturated zone 8 to 15% slope Cutbanks cave	0.99 0.96 0.10

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
165A: Weir-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
267A: Caseyville-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
267B: Caseyville-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.36	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
283B: Downsouth-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.36	Somewhat limited: Depth to saturated zone Cutbanks cave	0.99 0.10
283C2: Downsouth-----	Somewhat limited: Slope >8%	1.00	Very limited: K factor >0.35 <36 inches to water table Slope >8%	1.00 1.00 1.00	Somewhat limited: Depth to saturated zone Cutbanks cave	0.99 0.10
384A: Edwardsville-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
385A: Mascoutah-----	Not limited		Very limited: K factor >0.35 Ponding <36 inches to water table	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10
438B: Aviston-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.36	Somewhat limited: Depth to saturated zone Cutbanks cave	0.99 0.10
438C2: Aviston-----	Somewhat limited: Slope >8%	1.00	Very limited: K factor >0.35 <36 inches to water table Slope >8%	1.00 1.00 1.00	Somewhat limited: Depth to saturated zone Cutbanks cave	0.99 0.10

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
441B: Wakenda-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: K factor >0.35 Slope >1% but <8%	1.00 0.36	Somewhat limited: Depth to saturated zone Cutbanks cave	0.15 0.10
441C2: Wakenda-----	Somewhat limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Somewhat limited: Depth to saturated zone Cutbanks cave	0.15 0.10
474A: Piassa-----	Not limited		Very limited: K factor >0.35 Ponding <36 inches to water table	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10
477B: Winfield-----	Somewhat limited: Slope >1% but <8%	0.25	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.25	Somewhat limited: Depth to saturated zone Cutbanks cave	0.99 0.10
477B3: Winfield-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.36	Somewhat limited: Depth to saturated zone Cutbanks cave	0.99 0.10
477C2: Winfield-----	Somewhat limited: Slope >1% but <8%	0.99	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.99	Somewhat limited: Depth to saturated zone Cutbanks cave	0.99 0.10
477C3: Winfield-----	Somewhat limited: Slope >8%	1.00	Very limited: K factor >0.35 <36 inches to water table Slope >8%	1.00 1.00 1.00	Somewhat limited: Depth to saturated zone Cutbanks cave	0.99 0.10
477D3: Winfield-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8% <36 inches to water table	1.00 1.00 1.00	Somewhat limited: Depth to saturated zone 8 to 15% slope Cutbanks cave	0.99 0.96 0.10
491B: Ruma-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: K factor >0.35 Slope >1% but <8%	1.00 0.36	Somewhat limited: Depth to saturated zone Cutbanks cave	0.15 0.10

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
491C2: Ruma-----	Somewhat limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Somewhat limited: Depth to saturated zone Cutbanks cave	0.15 0.10
491D2: Ruma-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Somewhat limited: 8 to 15% slope Depth to saturated zone Cutbanks cave	0.96 0.15 0.10
491D3: Ruma-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Somewhat limited: 8 to 15% slope Depth to saturated zone Cutbanks cave	0.96 0.15 0.10
515B3: Bunkum-----	Somewhat limited: Slope >1% but <8%	0.25	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.25	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
515C3: Bunkum-----	Somewhat limited: Slope >1% but <8%	0.99	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.99	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
515D3: Bunkum-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8% <36 inches to water table	1.00 1.00 1.00	Very limited: Depth to saturated zone 8 to 15% slope Cutbanks cave	1.00 0.96 0.10
517A: Marine-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.50
517B: Marine-----	Somewhat limited: Slope >1% but <8%	0.25	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.25	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.50
533: Urban land-----	Not rated		Not rated		Not rated	
536: Dumps-----	Not rated		Not rated		Not rated	

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
581B2: Tamalco-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: K factor >0.35 Slope >1% but <8%	1.00 0.36	Somewhat limited: Depth to saturated zone Cutbanks cave	0.73 0.10
582B: Homen-----	Somewhat limited: Slope >1% but <8%	0.25	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.25	Somewhat limited: Depth to saturated zone Cutbanks cave	0.99 0.10
582C2: Homen-----	Somewhat limited: Slope >1% but <8%	0.99	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.99	Somewhat limited: Depth to saturated zone Cutbanks cave	0.99 0.10
585F: Negley-----	Very limited: Slope >8%	1.00	Very limited: Slope >8% K factor <0.35 to >0.20	1.00 0.89	Very limited: >15% slope Cutbanks cave	1.00 1.00
630D3: Navlys-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8% <36 inches to water table	1.00 1.00 1.00	Somewhat limited: Depth to saturated zone 8 to 15% slope Cutbanks cave	0.99 0.96 0.10
657A: Burksville-----	Not limited		Very limited: K factor >0.35 Ponding <36 inches to water table	1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 0.10
701F: Menfro-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Very limited: >15% slope Cutbanks cave	1.00 0.10
Hickory-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Very limited: >15% slope Cutbanks cave	1.00 0.10
702F: Ruma-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Very limited: >15% slope Depth to saturated zone Cutbanks cave	1.00 0.15 0.10
Hickory-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Very limited: >15% slope Cutbanks cave	1.00 0.10

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
703A:						
Pierron-----	Not limited		Very limited: K factor >0.35 Ponding <36 inches to water table	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Cutbanks cave	1.00 1.00 0.50
Burksville-----	Not limited		Very limited: K factor >0.35 Ponding <36 inches to water table	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10
801B:						
Orthents, silty----	Somewhat limited: Slope >1% but <8%	0.16	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.16	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
801D:						
Orthents, silty----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8% <36 inches to water table	1.00 1.00 1.00	Very limited: Depth to saturated zone >15% slope Cutbanks cave	1.00 1.00 0.10
802B:						
Orthents, loamy----	Somewhat limited: Slope >1% but <8%	0.16	Somewhat limited: K factor <0.35 to >0.20 Slope >1% but <8%	0.89 0.16	Somewhat limited: Depth to saturated zone Cutbanks cave	0.24 0.10
802D:						
Orthents, loamy----	Very limited: Slope >8%	1.00	Very limited: Slope >8% K factor <0.35 to >0.20	1.00 0.89	Very limited: >15% slope Depth to saturated zone Cutbanks cave	1.00 0.24 0.10
864, 865:						
Pits-----	Not rated		Not rated		Not rated	
867:						
Oil waste land-----	Not rated		Not rated		Not rated	
878C3:						
Coulterville-----	Somewhat limited: Slope >8%	1.00	Very limited: K factor >0.35 <36 inches to water table Slope >8%	1.00 1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
Grantfork-----	Somewhat limited: Slope >8%	1.00	Very limited: K factor >0.35 <36 inches to water table Slope >8%	1.00 1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave Too clayey	1.00 0.10 0.02

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
880B2: Coulterville-----	Somewhat limited: Slope >1% but <8%	0.25	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.25	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
Darmstadt-----	Somewhat limited: Slope >1% but <8%	0.25	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.25	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
882B: Oconee-----	Somewhat limited: Slope >1% but <8%	0.25	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.25	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
Coulterville-----	Somewhat limited: Slope >1% but <8%	0.25	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.25	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
Darmstadt-----	Somewhat limited: Slope >1% but <8%	0.25	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.25	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
885A: Virden-----	Not limited		Very limited: K factor >0.35 Ponding <36 inches to water table	1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 0.10
Fosterburg-----	Not limited		Very limited: K factor >0.35 Ponding <36 inches to water table	1.00 1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
894A: Herrick-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
Biddle-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
Piasa-----	Not limited		Very limited: K factor >0.35 Ponding <36 inches to water table	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
897D3:						
Bunkum-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8% <36 inches to water table	1.00 1.00 1.00	Very limited: Depth to saturated zone 8 to 15% slope Cutbanks cave	1.00 0.96 0.10
Atlas-----	Very limited: Slope >8%	1.00	Very limited: Slope >8% <36 inches to water table K factor <0.35 to >0.20	1.00 1.00 0.56	Very limited: Depth to saturated zone 8 to 15% slope Cutbanks cave Too clayey	1.00 0.96 0.10 0.02
914C3:						
Atlas-----	Somewhat limited: Slope >1% but <8%	0.99	Very limited: <36 inches to water table Slope >1% but <8% K factor <0.35 to >0.20	1.00 0.99 0.56	Very limited: Depth to saturated zone Cutbanks cave Too clayey	1.00 0.10 0.02
Grantfork-----	Somewhat limited: Slope >1% but <8%	0.99	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.99	Very limited: Depth to saturated zone Cutbanks cave Too clayey	1.00 0.10 0.02
914D3:						
Atlas-----	Very limited: Slope >8%	1.00	Very limited: Slope >8% <36 inches to water table K factor <0.35 to >0.20	1.00 1.00 0.56	Very limited: Depth to saturated zone 8 to 15% slope Cutbanks cave	1.00 0.96 0.10
Grantfork-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8% <36 inches to water table	1.00 1.00 1.00	Very limited: Depth to saturated zone 8 to 15% slope Cutbanks cave Too clayey	1.00 0.96 0.10 0.02
962D2:						
Sylvan-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Somewhat limited: 8 to 15% slope Cutbanks cave	0.96 0.50
Bold-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Somewhat limited: 8 to 15% slope Cutbanks cave	0.96 0.50
962F2:						
Sylvan-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Very limited: >15% slope Cutbanks cave	1.00 0.50
Bold-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Very limited: >15% slope Cutbanks cave	1.00 0.50

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
967F:						
Hickory-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Very limited: >15% slope Cutbanks cave	1.00 0.10
Gosport-----	Very limited: Slope >8% Soft bedrock >50cm to <100cm (20" to 40")	1.00 0.42	Very limited: K factor >0.35 Slope >8% Soft bedrock >50cm to <100cm (20" to 40")	1.00 1.00 0.42	Very limited: >15% slope Depth to soft bedrock Too clayey Cutbanks cave	1.00 0.42 0.32 0.10
993A:						
Cowden-----	Not limited		Very limited: K factor >0.35 Ponding <36 inches to water table	1.00 1.00 1.00	Very limited: Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 1.00 0.10
Piasa-----	Not limited		Very limited: K factor >0.35 Ponding <36 inches to water table	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Cutbanks cave	1.00 1.00 1.00 0.10
1070L:						
Beaucoup, undrained	Not limited		Very limited: Ponding <36 inches to water table K factor <0.35 to >0.20	1.00 1.00 0.89	Very limited: Ponding Depth to saturated zone Flooding Cutbanks cave	1.00 1.00 0.60 0.10
2071L:						
Darwin-----	Not limited		Very limited: Ponding <36 inches to water table K factor <0.35 to >0.20	1.00 1.00 0.56	Very limited: Ponding Depth to saturated zone Too clayey Flooding Cutbanks cave	1.00 1.00 0.68 0.60 0.10
Aquents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2079D:						
Menfro-----	Very limited: Slope >8%	1.00	Very limited: K factor >0.35 Slope >8%	1.00 1.00	Somewhat limited: 8 to 15% slope Cutbanks cave	0.63 0.10
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2113B:						
Oconee-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.36	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2113B:						
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2122B:						
Colp-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.36	Very limited: Depth to saturated zone Flooding Cutbanks cave Too clayey	1.00 0.60 0.10 0.02
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2183A:						
Shaffton-----	Not limited		Very limited: <36 inches to water table K factor <0.35 to >0.20	1.00 0.56	Very limited: Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2284A:						
Tice-----	Not limited		Very limited: <36 inches to water table K factor <0.35 to >0.20	1.00 0.89	Very limited: Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2304B:						
Landes-----	Somewhat limited: Slope >1% but <8%	0.36	Somewhat limited: Slope >1% but <8% K factor <0.35 to >0.20	0.36 0.17	Very limited: Cutbanks cave Flooding	1.00 0.60
Fluents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2384B:						
Edwardsville-----	Somewhat limited: Slope >1% but <8%	0.16	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.16	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2477B:						
Winfield-----	Somewhat limited: Slope >1% but <8%	0.62	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.62	Somewhat limited: Depth to saturated zone Cutbanks cave	0.99 0.10
Orthents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2592A:						
Nameoki-----	Not limited		Very limited: <36 inches to water table K factor <0.35 to >0.20	1.00 0.56	Very limited: Depth to saturated zone Cutbanks cave Flooding Too clayey	1.00 1.00 0.60 0.32
Fluvents-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
2741B:						
Oakville-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: Too sandy Slope >1% but <8%	1.00 0.36	Very limited: Cutbanks cave	1.00
Psamments-----	Not rated		Not rated		Not rated	
Urban land-----	Not rated		Not rated		Not rated	
3038B:						
Rocher-----	Somewhat limited: Slope >1% but <8%	0.36	Somewhat limited: K factor <0.35 to >0.20 Slope >1% but <8%	0.89 0.36	Very limited: Flooding Cutbanks cave	1.00 1.00
3070A:						
Beaucoup-----	Not limited		Very limited: Ponding <36 inches to water table K factor <0.35 to >0.20	1.00 1.00 0.89	Very limited: Ponding Flooding Depth to saturated zone Cutbanks cave	1.00 1.00 1.00 0.10
3070L:						
Beaucoup-----	Not limited		Very limited: Ponding <36 inches to water table K factor <0.35 to >0.20	1.00 1.00 0.89	Very limited: Ponding Flooding Depth to saturated zone Cutbanks cave	1.00 1.00 1.00 0.10
3071L:						
Darwin-----	Not limited		Very limited: Ponding <36 inches to water table K factor <0.35 to >0.20	1.00 1.00 0.56	Very limited: Ponding Flooding Depth to saturated zone Too clayey Cutbanks cave	1.00 1.00 1.00 0.68 0.10

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3333A: Wakeland-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Flooding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10
3334A: Birds-----	Not limited		Very limited: K factor >0.35 Ponding <36 inches to water table	1.00 1.00 1.00	Very limited: Ponding Flooding Depth to saturated zone Cutbanks cave	1.00 1.00 1.00 0.10
3336A: Wilbur-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Flooding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10
3415A: Orion-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Flooding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10
3428A: Coffeen-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Flooding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10
3451A: Lawson-----	Not limited		Very limited: <36 inches to water table K factor <0.35 to >0.20	1.00 0.89	Very limited: Flooding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10
3592A: Nameoki-----	Not limited		Very limited: <36 inches to water table K factor <0.35 to >0.20	1.00 0.56	Very limited: Flooding Depth to saturated zone Cutbanks cave Too clayey	1.00 1.00 1.00 0.32
7037A: Worthen-----	Not limited		Somewhat limited: K factor <0.35 to >0.20	0.89	Somewhat limited: Cutbanks cave	0.10
7037B: Worthen-----	Somewhat limited: Slope >1% but <8%	0.25	Somewhat limited: K factor <0.35 to >0.20 Slope >1% but <8%	0.89 0.25	Somewhat limited: Cutbanks cave	0.10

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7053B: Bloomfield-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: Too sandy Slope >1% but <8%	1.00 0.36	Very limited: Cutbanks cave	1.00
7075B: Drury-----	Somewhat limited: Slope >1% but <8%	0.25	Very limited: K factor >0.35 Slope >1% but <8%	1.00 0.25	Somewhat limited: Cutbanks cave	0.10
7081A: Littleton-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	1.00 0.10
7122B: Colp-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: K factor >0.35 <36 inches to water table Slope >1% but <8%	1.00 1.00 0.36	Very limited: Depth to saturated zone Cutbanks cave Too clayey	1.00 0.10 0.02
7122C: Colp-----	Somewhat limited: Slope >8%	1.00	Very limited: <36 inches to water table Slope >8% K factor <0.35 to >0.20	1.00 1.00 0.89	Very limited: Depth to saturated zone Cutbanks cave Too clayey	1.00 0.10 0.02
7150A: Onarga-----	Not limited		Somewhat limited: K factor <0.35 to >0.20	0.89	Very limited: Cutbanks cave	1.00
7151A: Ridgeville-----	Not limited		Very limited: Too sandy <36 inches to water table K factor <0.35 to >0.20	1.00 1.00 0.17	Very limited: Depth to saturated zone Cutbanks cave	1.00 1.00
7338A: Hurst-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Too clayey Cutbanks cave	1.00 0.12 0.10
7430A: Raddle-----	Not limited		Very limited: K factor >0.35	1.00	Somewhat limited: Cutbanks cave	0.10
7432A: Geff-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Cutbanks cave	1.00 1.00

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7434B: Ridgway-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: K factor >0.35 Slope >1% but <8%	1.00 0.36	Very limited: Cutbanks cave	1.00
7445A: Newhaven-----	Not limited		Very limited: <36 inches to water table K factor <0.35 to >0.20	1.00 0.89	Very limited: Depth to saturated zone Cutbanks cave	1.00 1.00
7741B: Oakville-----	Somewhat limited: Slope >1% but <8%	0.36	Very limited: Too sandy Slope >1% but <8%	1.00 0.36	Very limited: Cutbanks cave	1.00
7741C: Oakville-----	Somewhat limited: Slope >8%	1.00	Very limited: Too sandy Slope >8%	1.00 1.00	Very limited: Cutbanks cave	1.00
8038B: Rocher-----	Somewhat limited: Slope >1% but <8%	0.36	Somewhat limited: K factor <0.35 to >0.20 Slope >1% but <8%	0.89 0.36	Very limited: Cutbanks cave Flooding	1.00 0.60
8070A: Beaucoup-----	Not limited		Very limited: Ponding <36 inches to water table K factor <0.35 to >0.20	1.00 1.00 0.89	Very limited: Ponding Depth to saturated zone Flooding Cutbanks cave	1.00 1.00 0.60 0.10
8071L: Darwin-----	Not limited		Very limited: Ponding <36 inches to water table K factor <0.35 to >0.20	1.00 1.00 0.56	Very limited: Ponding Depth to saturated zone Too clayey Flooding Cutbanks cave	1.00 1.00 0.68 0.60 0.10
8078A: Arenzville-----	Not limited		Very limited: K factor >0.35	1.00	Somewhat limited: Flooding Depth to saturated zone Cutbanks cave	0.60 0.15 0.10
8180A: Dupo-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Flooding Cutbanks cave Too clayey	1.00 0.60 0.50 0.12

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8183A: Shaffton-----	Not limited		Very limited: <36 inches to water table K factor <0.35 to >0.20	1.00 0.56	Very limited: Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60
8284A: Tice-----	Not limited		Very limited: <36 inches to water table K factor <0.35 to >0.20	1.00 0.89	Very limited: Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10
8302A: Ambraw-----	Not limited		Very limited: Ponding <36 inches to water table K factor <0.35 to >0.20	1.00 1.00 0.56	Very limited: Ponding Depth to saturated zone Flooding Cutbanks cave	1.00 1.00 0.60 0.10
8304B: Landes-----	Somewhat limited: Slope >1% but <8%	0.36	Somewhat limited: Slope >1% but <8% K factor <0.35 to >0.20	0.36 0.17	Very limited: Cutbanks cave Flooding	1.00 0.60
8331A: Haymond-----	Not limited		Very limited: K factor >0.35	1.00	Somewhat limited: Flooding Cutbanks cave	0.60 0.10
8333A: Wakeland-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10
8334A: Birds-----	Not limited		Very limited: K factor >0.35 Ponding <36 inches to water table	1.00 1.00 1.00	Very limited: Ponding Depth to saturated zone Flooding Cutbanks cave	1.00 1.00 0.60 0.10
8415A: Orion-----	Not limited		Very limited: K factor >0.35 <36 inches to water table	1.00 1.00	Very limited: Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10

Table 17b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8591A: Fults-----	Not limited		Very limited: Ponding <36 inches to water table K factor <0.35 to >0.20	1.00 1.00 0.56	Very limited: Ponding Depth to saturated zone Cutbanks cave Too clayey Flooding	1.00 1.00 1.00 0.88 0.60
8592A: Nameoki-----	Not limited		Very limited: <36 inches to water table K factor <0.35 to >0.20	1.00 0.56	Very limited: Depth to saturated zone Cutbanks cave Flooding Too clayey	1.00 1.00 0.60 0.32
8674A: Dozaville-----	Not limited		Very limited: K factor >0.35	1.00	Very limited: Cutbanks cave Flooding	1.00 0.60
8831A: Fluvaquents, clayey	Not limited		Very limited: Ponding <36 inches to water table Too sandy K factor <0.35 to >0.20	1.00 1.00 1.00 0.89	Very limited: Ponding Depth to saturated zone Flooding Too clayey Cutbanks cave	1.00 1.00 0.60 0.50 0.10

Table 18.--Engineering Index Properties

(Absence of an entry indicates that the data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
8D3: Hickory-----	0-8	Clay loam	CL	A-6, A-7	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-6, A-7	0-1	0-5	95-100	75-100	70-95	65-80	35-45	15-25
	46-58	Clay loam, loam, gravelly clay loam	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	10-20
	58-80	Loam, sandy loam, gravelly clay loam	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	10-20
8F: Hickory-----	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	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	25-30	10-15
	12-46	Clay loam, silty clay loam, loam, gravelly clay loam	CL	A-6, A-7	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, ML, SC, SC-SM	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-2, A-4, A-6	0-1	0-5	85-100	70-95	45-95	25-75	25-40	10-20
31A: Pierron-----	0-8	Silt loam	CL, ML	A-4, A-6	0	0	100	98-100	90-100	85-100	30-40	10-20
	8-20	Silt loam, silt	CL, ML	A-4, A-6	0	0	100	98-100	90-100	85-100	25-40	10-20
	20-36	Silty clay loam, silty clay	CH	A-7-6	0	0	100	100	95-100	93-100	50-60	30-40
	36-66	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	93-100	45-60	25-35
	66-80	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 18.--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	
35F:												
Bold-----	0-12	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	25-30	5-10
	12-60	Silt loam, silt	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	20-30	5-10
46A:												
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
50A:												
Viriden-----	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	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	35-50	15-30
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, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	62-80	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	10-20
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, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	56-80	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	10-20

Table 18.--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	
79C3: Menfro-----	0-5	Silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	5-50	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	50-80	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	10-20
79D2: 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, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	56-80	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	10-20
79D3: Menfro-----	0-5	Silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	5-50	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	50-80	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	10-20
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-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	10-20
79F3: Menfro-----	0-5	Silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	5-50	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	50-80	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	10-20

Table 18.--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
	In											
79G: 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	10-20
90A: Bethalto-----	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	92-100	30-35	10-15
	8-15	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	92-100	25-35	5-15
	15-70	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	98-100	95-100	30-45	10-20
	70-80	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-35	10-15
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
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-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 18.--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	
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-6, A-7	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	90-100	30-35	10-15
	6-33	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	35-45	15-20
	33-80	Silty clay loam, silty clay, clay loam, loam	CL	A-6, A-7	0	0	100	90-100	80-100	60-95	30-50	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-6, A-7	0	0	100	90-100	80-100	60-95	25-50	10-30
165A: Weir-----	0-9	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	9-18	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-40	10-20
	18-62	Silty clay loam, silty clay	CH	A-7	0	0	100	100	95-100	90-100	50-60	30-35
	62-80	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25

Table 18.--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	
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-4, A-6	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
283B:												
Downsouth-----	0-13	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-35	10-15
	13-65	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	98-100	95-100	35-45	15-20
	65-80	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-35	10-15
283C2:												
Downsouth-----	0-9	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-35	10-15
	9-58	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	98-100	95-100	35-45	15-20
	58-80	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-35	10-15
384A:												
Edwardsville----	0-15	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-35	10-15
	15-57	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	30-45	10-20
	57-80	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-35	10-15

Table 18.--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	
385A:												
Mascoutah-----	0-21	Silty clay loam	CL	A-6, A-7	0	0	100	100	98-100	95-100	35-45	15-20
	21-58	Silty clay loam	CL	A-6, A-7	0	0	100	100	98-100	95-100	35-45	15-20
	58-66	Silty clay loam, silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-40	10-20
	66-80	Silt loam, silty clay loam	CL	A-6	0	0	100	100	98-100	95-100	30-40	10-20
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-6, A-7-6	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
438C2:												
Aviston-----	0-10	Silt loam	CL	A-6	0	0	100	100	95-100	93-100	25-35	10-15
	10-57	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	93-100	35-45	15-20
	57-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	98-100	90-100	85-100	30-40	10-20
441B:												
Wakenda-----	0-13	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	90-100	30-35	10-15
	13-60	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	90-100	35-45	15-20
	60-80	Silt loam, silty clay loam	CL	A-6	0	0	100	100	100	90-100	30-40	10-20

Table 18.--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	
441C2:												
Wakenda-----	0-9	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	90-100	30-35	10-15
	9-52	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	90-100	35-45	15-20
	52-80	Silt loam, silty clay loam	CL	A-6	0	0	100	100	100	90-100	30-40	10-20
474A:												
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	CL, ML	A-6	0	0	100	95-100	75-100	60-100	35-45	15-25
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	15-20
	48-80	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	30-35	10-15
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-6, A-7	0	0	100	100	95-100	95-100	35-45	15-20
	50-80	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	30-35	10-15

Table 18.--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	
477C3:												
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, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	30-35	10-15
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	15-20
	48-80	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	30-35	10-15
491B:												
Ruma-----	0-8	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	93-100	30-35	10-15
	8-56	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	93-100	30-45	15-20
	56-80	Silt loam, loam, silty clay loam, clay loam	CL	A-4, A-6	0	0	100	98-100	90-100	85-93	30-40	10-15
491C2:												
Ruma-----	0-6	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	93-100	30-35	10-15
	6-48	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	93-100	30-45	15-20
	48-80	Silt loam, loam, silty clay loam, clay loam	CL	A-4, A-6	0	0	100	98-100	90-100	85-93	30-40	10-15
491D2:												
Ruma-----	0-6	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	93-100	30-35	10-15
	6-48	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	93-100	30-45	15-20
	48-80	Silt loam, loam, silty clay loam, clay loam	CL	A-4, A-6	0	0	100	98-100	90-100	85-93	30-40	10-15

Table 18.--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	
491D3:												
Ruma-----	0-5	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	93-100	35-45	15-20
	5-48	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	93-100	30-45	15-25
	48-80	Silt loam, loam, silty clay loam, clay loam	CL	A-4, A-6	0	0	100	98-100	90-100	85-93	30-40	10-20
515B3:												
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-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	30-35	10-15
	58-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	30-40	10-15
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-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	30-35	10-15
	58-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	30-40	10-15
515D3:												
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-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	30-35	10-15
	58-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	30-40	10-15

Table 18.--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	
517A: Marine-----	0-9	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	30-35	10-15
	9-17	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	17-34	Silty clay loam, silty clay	CH	A-7	0	0	100	100	95-100	95-100	50-65	30-40
	34-62	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-50	15-30
	62-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	35-45	15-25
517B: Marine-----	0-9	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	30-35	10-15
	9-17	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	17-34	Silty clay loam, silty clay	CH	A-7	0	0	100	100	95-100	95-100	50-65	30-40
	34-62	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-50	15-30
	62-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	35-45	15-25
533. Urban land												
536. Dumps												
581B2: Tamalco-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	35-45	15-25
	9-19	Silty clay loam, silty clay	CH	A-7	0	0	100	100	95-100	95-100	50-60	30-40
	19-39	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	40-50	20-30
	39-60	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	98-100	90-100	80-100	35-45	15-25

Table 18.--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	
582B:												
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	CL, ML	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
582C2:												
Homen-----	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	98-100	95-100	30-35	10-15
	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
	50-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	30-40	10-20
585F:												
Negley-----	0-7	Loam	CL, CL-ML, ML	A-4, A-6	0	0	85-100	75-100	70-90	55-85	25-35	5-15
	7-50	Loam, clay loam, gravelly sandy clay loam	ML, SM	A-2, A-4, A-6, A-7	0-2	0-5	70-95	50-90	35-80	20-60	30-45	10-20
	50-80	Gravelly sandy clay loam, sandy clay loam, sandy loam	SC, SC-SM	A-2, A-4, A-6, A-7	0-2	0-5	70-95	50-90	40-80	25-50	25-40	10-20
630D3:												
Navlys-----	0-5	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-40	15-20
	5-26	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-20
	26-80	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	30-35	10-15

Table 18.--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	
657A:												
Burksville-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	25-35	5-15
	7-13	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	85-100	25-35	5-15
	13-54	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	35-45	15-20
	54-80	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	30-45	10-20
701F:												
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	10-20
Hickory-----	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	ML, CL-ML, CL	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	25-30	10-15
	12-46	Clay loam, silty clay loam, loam, gravelly clay loam	CL	A-6, A-7	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	10-20
	58-80	Loam, sandy loam, gravelly clay loam	SC-SM, SC, CL-ML, CL	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	25-40	10-20
	702F:											
Ruma-----	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	93-100	30-35	10-15
	8-56	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	93-100	30-45	15-20
	56-80	Silt loam, loam, silty clay loam, clay loam	CL	A-4, A-6	0	0	100	98-100	90-100	85-93	30-40	10-15

Table 18.--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	
702F:												
Hickory-----	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	ML, CL-ML, CL	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	25-30	10-15
	12-46	Clay loam, silty clay loam, loam, gravelly clay loam	CL	A-6, A-7	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	10-20
	58-80	Loam, sandy loam, gravelly clay loam	SC-SM, SC, CL-ML, CL	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	25-40	10-20
703A:												
Pierron-----	0-8	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	98-100	90-100	85-100	30-40	10-20
	8-20	Silt loam, silt	CL, CL-ML, ML	A-4, A-6	0	0	100	98-100	90-100	85-100	25-40	10-20
	20-36	Silty clay, silty clay loam	CH	A-7-6	0	0	100	100	95-100	93-100	50-60	30-40
	36-66	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	93-100	45-60	25-35
	66-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6, A-7	0	0	100	95-100	90-100	75-100	35-45	15-25
Burksville-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	25-35	5-15
	7-13	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	85-100	25-35	5-15
	13-54	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	35-45	15-20
	54-80	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	30-45	10-20
801B:												
Orthents, silty	0-60	Silt loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	90-100	80-95	30-35	10-15
801D:												
Orthents, silty	0-60	Silt loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	90-100	80-95	30-35	10-15

Table 18.--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	
802B: Orthents, loamy	0-6	Loam	CL	A-6	0	0-5	95-100	90-100	85-95	60-90	30-35	10-15
	6-60	Loam, clay loam	CL	A-6	0	0-5	95-100	90-100	85-95	60-90	30-40	15-20
802D: Orthents, loamy	0-6	Loam	CL	A-6	0	0-5	95-100	90-100	85-95	60-90	30-35	10-15
	6-60	Loam, clay loam	CL	A-6	0	0-5	95-100	90-100	85-95	60-90	30-40	15-20
864, 865. Pits												
867. Oil waste land												
878C3: Coulterville----	0-5	Silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-20
	5-20	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-45	15-20
	20-48	Silty clay loam, silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	30-45	10-20
	48-80	Silt loam, loam, silty clay loam, clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	80-95	30-40	10-20
Grantfork-----	0-5	Silty clay loam	CL	A-7, A-6	0	0	100	95-100	85-95	80-90	35-45	15-20
	5-37	Silty clay loam, silt loam, loam, clay loam	CL	A-7, A-6	0	0	100	90-100	80-90	70-80	30-45	10-20
	37-67	Clay loam, loam	CL	A-7, A-6	0	0-5	95-100	85-95	70-80	55-75	30-45	10-20
	67-80	Clay, clay loam, silty clay loam, loam	CH, CL	A-6, A-7	0	0-5	95-100	85-95	70-80	55-75	35-55	15-30

Table 18.--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	
880B2: Coulterville----	0-7	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	25-35	10-15
	7-23	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-45	15-20
	23-68	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-45	10-20
	68-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	30-40	10-20
Darmstadt-----	0-11	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	75-100	25-35	5-15
	11-21	Silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-20
	21-39	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-45	10-20
	39-62	Silt loam, silty clay loam	CL	A-6, A-4	0	0	100	100	95-100	95-100	30-40	10-20
	62-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	30-40	10-20
882B: 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 18.--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	
882B: Coulterville----	0-7	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	25-35	10-15
	7-23	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-45	15-20
	23-68	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-45	10-20
	68-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	30-40	10-20
Darmstadt-----	0-11	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	75-100	25-35	5-15
	11-21	Silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-20
	21-39	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-45	10-20
	39-62	Silt loam, silty clay loam	CL	A-6, A-4	0	0	100	100	95-100	90-100	30-40	10-20
	62-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	95-100	90-100	80-100	30-40	10-20
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-6, A-7	0	0	100	100	95-100	90-100	35-50	15-25
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	CH, CL	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

Table 18.--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	
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-6, A-7-6	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
897D3:												
Bunkum-----	0-7	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	35-45	15-20
	7-40	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	30-35	10-15
	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 18.--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	
897D3:												
Atlas-----	0-7	Silty clay loam	CH, CL	A-7	0	0	100	100	95-100	75-100	45-55	25-35
	7-31	Silty clay loam, silty clay, clay loam	CH	A-7	0	0	100	95-100	95-100	75-95	50-60	30-35
	31-51	Silty clay, clay, silty clay loam, clay loam	CH	A-7	0	0	100	95-100	95-100	75-95	45-65	25-40
	51-80	Silty clay, clay loam, loam	CH, CL	A-6, A-7	0	0	95-100	90-98	90-98	65-95	40-60	20-35
914C3:												
Atlas-----	0-7	Silty clay loam	CH, CL	A-7	0	0	100	100	95-100	75-100	45-55	25-35
	7-31	Silty clay loam, silty clay, clay loam	CH	A-7	0	0	100	95-100	95-100	75-95	50-60	30-35
	31-51	Silty clay, clay, silty clay loam, clay loam	CH	A-7	0	0	100	95-100	95-100	75-95	45-65	25-40
	51-80	Silty clay, clay loam, loam	CH, CL	A-6, A-7	0	0	95-100	90-98	90-98	65-95	40-60	20-35
Grantfork-----												
	0-5	Silty clay loam	CL	A-7, A-6	0	0	100	95-100	85-95	80-90	35-45	15-20
	5-37	Silty clay loam, silt loam, loam, clay loam	CL	A-7, A-6	0	0	100	90-100	80-90	70-80	30-45	10-20
	37-67	Clay loam, loam	CL	A-7, A-6	0	0-5	95-100	85-95	70-80	55-75	30-45	10-20
	67-80	Clay, clay loam, silty clay loam, loam	CH, CL	A-6, A-7	0	0-5	95-100	85-95	70-80	55-75	35-55	15-30

Table 18.--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	
914D3:												
Atlas-----	0-9	Silty clay loam	CH, CL	A-7	0	0	100	100	95-100	75-100	45-55	25-35
	9-31	Silty clay loam, silty clay, clay loam	CH	A-7	0	0	100	95-100	95-100	75-95	50-60	30-35
	31-51	Silty clay, clay, silty clay loam, clay loam	CH	A-7	0	0	100	95-100	95-100	75-95	45-65	25-40
	51-80	Silty clay, clay loam, loam	CH, CL	A-6, A-7	0	0	95-100	90-98	90-98	65-95	40-60	20-35
Grantfork-----	0-5	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	85-95	80-90	35-45	15-20
	5-37	Silty clay loam, silt loam, loam, clay loam	CL	A-7, A-6	0	0	100	90-100	80-90	70-80	30-45	10-20
	37-67	Clay loam, loam	CL	A-7, A-6	0	0-5	95-100	85-95	70-80	55-75	30-45	10-20
	67-80	Clay, clay loam, silty clay loam, loam	CH, CL	A-6, A-7	0	0-5	95-100	85-95	70-80	55-75	35-55	15-30
962D2:												
Sylvan-----	0-5	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	30-35	10-15
	5-30	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-20
	30-80	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-35	5-15
Bold-----	0-12	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	25-30	5-10
	12-60	Silt loam, silt	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	20-30	5-10
962F2:												
Sylvan-----	0-5	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	30-35	10-15
	5-30	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-20
	30-80	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-35	5-15
Bold-----	0-12	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	25-30	5-10
	12-60	Silt loam, silt	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	20-30	5-10

Table 18.--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	
967F: Hickory-----	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	ML, CL-ML, CL	A-6, A-4	0	0-5	95-100	90-100	75-100	55-100	25-30	10-15
	12-46	Clay loam, silty clay loam, loam, gravelly clay loam	CL	A-6, A-7	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	10-20
	58-80	Loam, sandy loam, gravelly clay loam	SC-SM, SC, CL-ML, CL	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	25-40	10-20
	Gosport-----	0-5	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	90-100	90-100	70-100	35-45
5-32		Clay, silty clay, silty clay loam	CH	A-7	0	0	100	90-100	90-100	85-100	50-75	30-45
32-60		Weathered bedrock	---	---	---	---	---	---	---	---	---	---
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	ML, CL	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

Table 18.--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	
1070L: Beaucoup, undrained-----	0-21	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	35-45	15-20
	21-42	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	35-45	15-20
	42-60	Stratified silty clay loam to very fine sandy loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	90-100	65-95	20-41	5-20
2071L: Darwin-----	0-16	Silty clay	CH, CL	A-7	0	0	100	100	100	90-100	55-70	35-45
	16-62	Silty clay, clay	CH, CL	A-7	0	0	100	100	100	85-100	60-75	35-50
	62-80	Silty clay, clay, silty clay loam	CH, CL	A-6, A-7	0	0	100	100	95-100	90-100	45-70	25-45
Aquents.												
Urban land.												
2079D: 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	10-20
Orthents.												
Urban land.												

Table 18.--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	
2113B:												
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
	47-58	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	35-50	15-30
	58-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	100	85-100	70-100	35-45	15-25
Orthents.												
Urban land.												
2122B:												
Colp-----	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	35-40	15-20
	12-70	Silty clay loam, silty clay	CH	A-7	0	0	100	100	95-100	90-100	50-65	30-40
	70-80	Stratified silty clay loam to silty clay	CH	A-7	0	0	100	100	95-100	85-100	45-60	25-35
Orthents.												
Urban land.												
2183A:												
Shaffton-----	0-10	Clay loam	CL	A-6	0	0	100	100	85-95	60-80	35-45	15-20
	10-21	Clay loam, loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-95	55-65	30-40	10-20
	21-43	Fine sandy loam, loam	SC-SM, SM, SP-SM	A-2	0	0	100	100	50-75	10-30	25-35	10-15
	43-60	Stratified silt loam to fine sand	CL	A-6, A-7	0	0	100	100	90-100	80-95	0-30	NP-10
Fluvents.												
Urban land.												

Table 18.--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	
2284A:												
Tice-----	0-16	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	80-85	35-45	15-20
	16-72	Silty clay loam, silt loam	CH, CL	A-7	0	0	100	100	95-100	85-95	30-45	15-20
	72-80	Stratified silty clay loam to very fine sandy loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	60-95	55-80	30-40	5-20
Fluvents.												
Urban land.												
2304B:												
Landes-----	0-14	Very fine sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	100	70-100	70-95	20-50	5-30	NP-10
	14-39	Loam, very fine sandy loam, loamy fine sand	CL-ML, SC, SC-SM, SM	A-2-4, A-4	0	0	100	85-100	70-100	15-60	0-30	NP-10
	39-80	Stratified silt loam to very fine sand	SC-SM, SM, SP-SM, SC	A-2-4, A-4	0	0	100	85-100	70-85	10-50	0-30	NP-10
Fluvents.												
Urban land.												
2384B:												
Edwardsville----	0-15	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-35	10-15
	15-57	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	30-45	10-20
	57-80	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-35	10-15
Orthents.												
Urban land.												

Table 18.--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	
2477B:												
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, A-7	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, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	30-35	10-15
Orthents.												
Urban land.												
2592A:												
Nameoki-----	0-12	Silty clay	CH	A-7	0	0	100	100	100	90-100	55-70	35-45
	12-28	Silty clay, silty clay loam, clay	CH	A-7	0	0	100	100	95-100	85-100	50-75	30-50
	28-54	Stratified silty clay loam to silt loam to clay loam to loam	CL, SC	A-6, A-7-6	0	0	100	95-100	80-95	40-85	30-50	15-30
	54-80	Stratified silty clay loam to very fine sand	CL, ML, SC, SM	A-2, A-3, A-4, A-6	0	0	100	90-100	60-90	5-80	0-45	NP-25
Fluvents.												
Urban land.												
2741B:												
Oakville-----	0-6	Fine sand	SM, SP-SM	A-2	0	0	100	90-100	50-80	10-35	0-0	NP
	6-18	Fine sand, loamy fine sand	SM, SP-SM	A-2	0	0	100	95-100	65-95	10-35	0-0	NP
	18-60	Stratified loamy fine sand to fine sand	SM, SP-SM	A-2	0	0	100	90-100	50-80	10-35	0-0	NP
Psamments.												
Urban land.												

Table 18.--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	
3038B:												
Rocher-----	0-5	Loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	50-85	20-30	5-10
	5-53	Loamy very fine sand, very fine sandy loam, very fine sand	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	50-85	0-30	NP-10
	53-62	Stratified fine sandy loam to very fine sand	ML, SC, SM, CL	A-2, A-4	0	0	100	100	90-100	30-90	0-25	NP-10
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-4, A-6, A-7	0	0	100	100	90-100	65-95	20-40	5-25
3070L:												
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-4, A-6	0	0	100	100	90-100	60-95	20-40	5-20
3071L:												
Darwin-----	0-16	Silty clay	CH, CL	A-7, A-7-6	0	0	100	100	100	90-100	55-70	35-45
	16-62	Silty clay, clay	CL, CH	A-7, A-7-6	0	0	100	100	100	85-100	60-75	35-50
	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	45-70	25-45
3333A:												
Wakeland-----	0-8	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	80-100	20-30	5-10
	8-68	Silt loam	CL, CL-ML, 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

Table 18.--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	
3334A:												
Birds-----	0-8	Silt loam	CL	A-4, A-6	0	0	100	95-100	90-100	80-100	25-35	10-15
	8-63	Silt loam	CL	A-6, A-4	0	0	100	95-100	90-100	80-100	25-35	10-15
	63-80	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	95-100	90-100	80-100	30-40	10-20
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	CL, CL-ML, ML	A-4, A-6	0	0	100	100	80-100	60-100	20-35	5-15
3415A:												
Orion-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	80-100	25-30	5-10
	7-35	Silt loam	CL, CL-ML	A-4	0	0	100	100	90-100	70-80	25-30	5-10
	35-54	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	85-100	25-40	10-20
	54-66	Stratified silt loam to very fine sandy loam	CL, CL-ML	A-4	0	0	80-100	80-100	80-100	80-100	20-35	5-15
3428A:												
Coffeen-----	0-10	Silt loam	CL, ML	A-4, A-6	0	0	100	100	90-100	85-100	25-35	10-15
	10-47	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	80-95	25-30	5-10
	47-60	Stratified silt loam to fine sandy loam	CL, ML, SC, SM	A-2, A-4	0	0	100	90-100	85-100	30-85	0-25	NP-10
3451A:												
Lawson-----	0-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	20-35	5-15
	14-33	Silt loam, silty clay loam	CL, CL-ML	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 18.--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	
3592A:												
Nameoki-----	0-12	Silty clay loam	CH	A-7	0	0	100	100	100	90-100	45-55	25-35
	12-28	Silty clay, silty clay loam, clay	CH	A-7	0	0	100	100	95-100	85-100	50-75	30-50
	28-54	Stratified silty clay loam to silt loam to clay loam to loam	CL, SC	A-6, A-7-6	0	0	100	95-100	80-95	40-85	30-50	15-30
	54-80	Stratified silty clay loam to very fine sand	CL, ML, SC, SM	A-2, A-3, A-4, A-6	0	0	100	90-100	60-90	5-80	0-45	NP-25
7037A:												
Worthen-----	0-30	Silt loam	CL, CL-ML	A-4, A-6	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
7037B:												
Worthen-----	0-30	Silt loam	CL, CL-ML	A-4, A-6	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
7053B:												
Bloomfield-----	0-7	Loamy fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	70-100	4-35	0-20	NP-5
	7-35	Fine sand, loamy fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	70-100	4-35	0-20	NP-5
	35-60	Stratified fine sandy loam to very fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	65-100	4-35	0-25	NP-5
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-4, A-6	0	0	100	95-100	95-100	90-100	30-35	10-15
	43-80	Silt loam, loam	CL, ML	A-4, A-6	0	0	100	95-100	95-100	55-95	25-35	10-15
7081A:												
Littleton-----	0-10	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	30-35	10-15
	10-33	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	90-100	30-35	10-15
	33-80	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	80-100	30-35	10-15

Table 18.--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	
7122B:												
Colp-----	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	35-40	15-20
	12-70	Silty clay loam, silty clay	CH	A-7	0	0	100	100	95-100	90-100	50-65	30-40
	70-80	Stratified silty clay loam to silty clay	CH	A-7	0	0	100	100	95-100	85-100	45-60	25-35
7122C:												
Colp-----	0-5	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	40-50	25-30
	5-70	Silty clay loam, silty clay	CH	A-7	0	0	100	100	95-100	90-100	50-70	30-40
	70-80	Stratified silty clay loam to silty clay	CH	A-7	0	0	100	100	95-100	85-100	50-60	25-35
7150A:												
Onarga-----	0-16	Sandy loam	SC, SC-SM, SM	A-2, A-4, A-6	0	0	100	100	75-95	25-50	20-25	5-10
	16-39	Sandy loam, loam, loamy sand	CL, CL-ML, SC, SC-SM	A-2-4, A-2-6, A-4, A-6	0	0	95-100	95-100	75-95	30-60	25-30	5-10
	39-60	Stratified fine sandy loam to fine sand	SC-SM, SM, SP-SM	A-2, A-4	0	0	85-100	80-100	70-95	12-50	0-20	NP-5
7151A:												
Ridgeville-----	0-10	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	100	100	90-100	15-50	20-25	5-10
	10-34	Fine sandy loam, loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	95-100	95-100	75-95	35-60	25-30	5-10
	34-60	Stratified loamy fine sand to fine sand	SC, SC-SM, SM, SP-SM	A-2, A-4	0	0	90-100	90-100	70-100	10-50	0-20	NP-5

Table 18.--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	
7338A: Hurst-----	0-7	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	95-100	75-100	35-45	15-25
	7-12	Silt loam, silty clay loam	CL-ML, CL	A-6, A-4	0	0	100	95-100	95-100	75-100	35-45	15-25
	12-62	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	90-100	50-70	30-45
	62-80	Stratified silty clay loam to silty clay	CH, CL	A-6, A-7	0	0	100	100	90-100	85-100	45-60	25-35
7430A: Raddle-----	0-20	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	30-35	10-15
	20-65	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	80-100	30-35	10-15
	65-80	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-35	10-15
7432A: Geff-----	0-5	Silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	95-100	95-100	30-35	10-15
	5-12	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	95-100	95-100	30-40	10-20
	12-33	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	95-100	90-100	90-100	35-45	15-20
	33-62	Silt loam, loam, sandy loam, clay loam	CL, CL-ML	A-6, A-4	0	0-2	90-100	80-100	70-100	50-90	25-40	10-20
	62-80	Stratified loam to fine sand	SM, SP-SM	A-2, A-4	0	0-1	90-100	85-100	70-85	12-50	0-25	NP-10
7434B: 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	15-20
	27-52	Fine sandy loam, loam, clay loam	CL, ML, SC, SC-SM	A-4, A-6	0	0	98-100	90-100	80-90	35-70	20-40	5-20
	52-80	Stratified fine sandy loam to fine sand	SM, SP-SM	A-1-b, A-2, A-3	0	0	96-100	95-100	20-60	5-30	0-20	NP-5

Table 18.--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	
7445A: Newhaven-----	0-12	Loam	CL, CL-ML	A-4	0	0	95-100	95-100	80-100	55-85	20-35	5-15
	12-56	Clay loam, loam, sandy clay loam, fine sandy loam	CL	A-4, A-6	0	0	95-100	95-100	80-95	55-80	30-45	10-20
	56-80	Stratified fine sandy loam to very fine sand	SM, SP-SM	A-2, A-4	0	0	90-100	85-95	60-85	10-55	0-25	NP-5
7741B: Oakville-----	0-11	Fine sand	SM, SP-SM	A-2	0	0	100	90-100	50-80	10-35	0-0	NP
	11-32	Fine sand, loamy fine sand	SM, SP-SM	A-2	0	0	100	95-100	65-95	10-35	0-0	NP
	32-60	Stratified loamy fine sand to fine sand	SM, SP-SM	A-2	0	0	100	90-100	50-80	10-35	0-0	NP
7741C: Oakville-----	0-11	Fine sand	SM, SP-SM	A-2	0	0	100	90-100	50-80	10-35	0-0	NP
	11-32	Fine sand, loamy fine sand	SM, SP-SM	A-2	0	0	100	95-100	65-95	10-35	0-0	NP
	32-60	Stratified loamy fine sand to fine sand	SM, SP-SM	A-2	0	0	100	90-100	50-80	10-35	0-0	NP
8038B: Rocher-----	0-5	Loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	50-85	20-30	5-10
	5-53	Loamy very fine sand, very fine sandy loam, very fine sand	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	50-85	0-30	NP-10
	53-62	Stratified fine sandy loam to very fine sand	CL, ML, SC, SM	A-2, A-4	0	0	100	100	90-100	30-90	0-25	NP-10

Table 18.--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	
8070A:												
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-4, A-6	0	0	100	100	90-100	60-95	20-40	5-20
8071L:												
Darwin-----	0-16	Silty clay	CH, CL	A-7	0	0	100	100	100	90-100	55-70	35-45
	16-62	Silty clay, clay	CH, CL	A-7	0	0	100	100	100	85-100	60-75	35-50
	62-80	Silty clay, clay, silty clay loam	CH, CL	A-6, A-7	0	0	100	100	95-100	90-100	45-70	25-45
8078A:												
Arenzville-----	0-31	Silt loam	CL, CL-ML	A-4	0	0	100	100	95-100	80-95	25-30	5-10
	31-56	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-95	25-40	10-20
	56-70	Silt loam, silty clay loam	CL, CL-ML	A-4	0	0	75-100	75-100	75-100	70-95	25-40	10-20
8180A:												
Dupo-----	0-9	Silt loam	CL, CL-ML	A-4	0	0	100	100	100	95-100	25-30	5-10
	9-25	Silt loam, silt	CL, CL-ML	A-4	0	0	100	100	100	95-100	20-30	5-10
	25-80	Silty clay, clay, silty clay loam	CH	A-7-6	0	0	100	100	100	98-100	50-70	30-45
8183A:												
Shaffton-----	0-10	Clay loam	CL	A-6	0	0	100	100	85-95	60-80	35-45	15-20
	10-21	Clay loam, loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-95	55-65	30-40	10-20
	21-43	Fine sandy loam, loam	SC-SM, SM, SP-SM	A-2	0	0	100	100	50-75	10-30	25-35	10-15
	43-60	Stratified silt loam to fine sand	CL	A-6, A-7	0	0	100	100	90-100	80-95	0-30	NP-10

Table 18.--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	
8284A:												
Tice-----	0-16	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	80-95	35-45	15-20
	16-72	Silty clay loam, silt loam	CH, CL	A-7	0	0	100	100	95-100	85-95	30-45	15-20
	72-80	Stratified silty clay loam to very fine sandy loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	60-95	55-80	20-40	5-20
8302A:												
Ambraw-----	0-11	Silty clay loam	CL	A-6, A-7	0	0	100	100	85-95	85-95	35-45	15-20
	11-21	Clay loam, clay, loam	CH, CL	A-6, A-7	0	0	100	100	80-90	60-80	35-50	15-25
	21-34	Clay loam, sandy clay loam, loam	CL, SC	A-6, A-7	0	0	100	90-100	85-95	40-80	35-45	15-20
	34-60	Stratified clay loam to fine sandy loam	CL, ML, SC, SM	A-4, A-6	0	0	100	90-100	80-90	40-80	30-40	10-20
8304B:												
Landes-----	0-14	Very fine sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	100	70-100	70-95	20-50	5-30	NP-10
	14-39	Loam, very fine sandy loam, loamy fine sand	CL-ML, SC, SC-SM, SM	A-2-4, A-4	0	0	100	85-100	70-100	15-60	0-30	NP-10
	39-80	Stratified silt loam to very fine sand	SC, SC-SM, SM, SP-SM	A-2-4, A-4	0	0	100	85-100	70-85	10-50	0-30	NP-10
8331A:												
Haymond-----	0-14	Silt loam	ML, CL, CL-ML	A-4	0	0	100	100	90-100	85-100	25-30	5-10
	14-44	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	80-100	20-30	5-10
	44-80	Silt loam, loam, fine sandy loam	CL, ML, SC, SM	A-4, A-6	0	0	95-100	90-100	65-100	35-90	15-35	2-15
8333A:												
Wakeland-----	0-8	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	80-100	20-30	5-10
	8-68	Silt loam	CL, CL-ML, 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

Table 18.--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
	In											
8334A:												
Birds-----	0-8	Silt loam	CL	A-6, A-4	0	0	100	95-100	90-100	80-100	25-35	10-15
	8-63	Silt loam	CL	A-4, A-6	0	0	100	95-100	90-100	80-100	25-35	10-15
	63-80	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	95-100	90-100	80-100	30-40	10-20
8415A:												
Orion-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	80-100	25-30	5-10
	7-35	Silt loam	CL, CL-ML	A-4	0	0	100	100	90-100	70-80	25-30	5-10
	35-54	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	85-100	25-40	10-20
	54-66	Stratified silt loam to very fine sandy loam	CL, CL-ML	A-4	0	0	80-100	80-100	80-100	80-100	20-35	5-15
8591A:												
Fults-----	0-12	Silty clay	CH	A-7	0	0	100	100	100	90-100	55-70	35-45
	12-32	Clay, silty clay loam	CH	A-7	0	0	100	100	95-100	85-100	50-75	30-50
	32-42	Silty clay loam, clay loam, sandy clay loam, sandy loam	CL, SC	A-6, A-7	0	0	100	95-100	80-95	40-85	30-50	15-30
	42-60	Stratified silty clay loam to very fine sand	CL, ML, SC, SM	A-2, A-3, A-4, A-6	0	0	100	90-100	60-90	5-80	0-45	NP-25

Table 18.--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	
8592A: Nameoki-----	0-12	Silty clay	CH	A-7	0	0	100	100	100	90-100	55-70	35-45
	12-28	Silty clay, silty clay loam, clay	CH	A-7	0	0	100	100	95-100	85-100	50-75	30-50
	28-54	Stratified silty clay loam to silt loam to clay loam to loam	CL, SC	A-6, A-7-6	0	0	100	95-100	80-95	40-85	30-50	15-30
	54-80	Stratified silty clay loam to very fine sand	CL, ML, SC, SM	A-2, A-3, A-4, A-6	0	0	100	90-100	60-90	5-80	0-45	NP-25
8674A: Dozaville-----	0-16	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	30-35	10-15
	16-45	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	80-100	30-35	10-15
	45-60	Very fine sandy loam, loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	60-100	20-35	5-15
	60-80	Stratified fine sandy loam to very fine sand	CL	A-6	0	0	100	100	85-100	20-60	0-20	NP-5
8831A: Fluvaquents, clayey-----	0-80	Variable	CH	A-7	0	0	100	100	95-100	75-95	50-70	30-50

Table 19.--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					
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	0.5-1.0	.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	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			
31A:														
Pierron-----	0-8	1-7	71-85	12-25	1.25-1.45	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	3	5	56
	8-20	1-7	70-88	10-22	1.30-1.50	0.06-0.2	0.15-0.20	0.0-2.9	0.1-0.5	.55	.55			
	20-36	1-7	46-64	35-45	1.35-1.60	0.01-0.06	0.10-0.18	6.0-8.9	0.1-0.5	.37	.37			
	36-66	1-7	54-70	27-42	1.35-1.60	0.01-0.06	0.12-0.18	6.0-8.9	0.1-0.5	.37	.37			
	66-80	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			
35F:														
Bold-----	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	10-18	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	0.1-0.5	.55	.55			
46A:														
Herrick-----	0-13	1-7	64-78	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			
50A:														
Virden-----	0-15	1-7	64-78	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	50-70	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			
79B:														
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			

Table 19.--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	Wind
										Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
79C2:														
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			
79C3:														
Menfro-----	0-5	1-7	60-72	27-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37	4	7	38
	5-50	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			
	50-80	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			
79D2:														
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			
79D3:														
Menfro-----	0-5	1-7	60-72	27-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37	5	7	38
	5-50	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			
	50-80	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			
79F:														
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			
79F3:														
Menfro-----	0-5	1-7	60-72	27-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37	3	7	38
	5-50	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			
	50-80	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			
79G:														
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			
90A:														
Bethalto-----	0-8	1-7	68-80	18-27	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	8-15	1-7	72-80	15-25	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	0.2-0.8	.43	.43			
	15-70	1-7	60-75	20-35	1.30-1.45	0.6-2	0.18-0.22	3.0-5.9	0.2-0.8	.37	.37			
	70-80	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			

Table 19.--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					
113A: Oconee-----	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			
113B: Oconee-----	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			
119C3: Elco-----	0-5	1-7	55-72	27-35	1.20-1.35	0.6-2	0.18-0.21	3.0-5.9	0.5-1.0	.37	.37	4	7	38
	5-33	1-7	55-72	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	35-60	20-45	1.40-1.60	0.06-0.6	0.16-0.20	6.0-8.9	0.1-0.3	.28	.28			
119D2: Elco-----	0-6	1-7	66-78	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
	6-33	1-7	55-72	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	35-60	20-45	1.45-1.70	0.06-0.6	0.14-0.20	6.0-8.9	0.1-0.3	.28	.28			
119D3: Elco-----	0-5	1-7	55-72	27-35	1.20-1.35	0.6-2	0.18-0.21	3.0-5.9	0.5-1.0	.37	.37	4	7	38
	5-33	1-7	55-72	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	35-60	20-45	1.40-1.60	0.06-0.6	0.16-0.20	6.0-8.9	0.1-0.3	.28	.28			
165A: Weir-----	0-9	1-7	65-80	18-27	1.30-1.50	0.2-0.6	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-18	1-7	70-85	12-24	1.40-1.55	0.06-0.2	0.17-0.20	0.0-2.9	0.1-0.5	.55	.55			
	18-62	1-7	45-64	35-45	1.40-1.60	0.01-0.06	0.18-0.20	6.0-8.9	0.2-0.5	.37	.37			
	62-80	2-10	60-78	20-27	1.40-1.60	0.06-0.2	0.18-0.20	3.0-5.9	0.1-0.5	.49	.49			
267A: 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			
267B: 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			

Table 19.--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	Wind	
										Kw	Kf	T	erodi- bility group	erodi- bility index	
283B:															
Downsouth-----	0-13	1-7	68-80	18-27	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48	
	13-65	1-7	57-75	24-35	1.25-1.40	0.6-2	0.18-0.22	3.0-5.9	0.5-1.0	.37	.37				
	65-80	1-7	68-80	18-27	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49				
283C2:															
Downsouth-----	0-9	1-7	68-80	18-27	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	6	48	
	9-58	1-7	57-75	24-35	1.25-1.40	0.6-2	0.18-0.22	3.0-5.9	0.5-1.0	.37	.37				
	58-80	1-7	68-80	18-27	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49				
384A:															
Edwardsville-----	0-15	1-7	64-78	20-27	1.20-1.35	0.6-2	0.22-0.24	3.0-5.9	4.0-6.0	.28	.28	5	6	48	
	15-57	1-7	60-75	20-35	1.30-1.50	0.6-2	0.18-0.22	3.0-5.9	0.5-2.0	.37	.37				
	57-80	1-7	68-80	18-25	1.30-1.55	0.6-2	0.20-0.22	0.0-2.9	0.2-0.8	.49	.49				
385A:															
Mascoutah-----	0-21	1-7	55-72	27-35	1.20-1.40	0.6-2	0.21-0.23	3.0-5.9	4.0-6.0	.24	.24	5	7	38	
	21-58	1-7	55-72	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.37	.37				
	58-66	1-7	60-78	20-32	1.30-1.50	0.6-2	0.18-0.22	3.0-5.9	0.5-1.0	.37	.37				
	66-80	1-7	64-80	18-30	1.30-1.55	0.6-2	0.20-0.22	0.0-2.9	0.2-0.8	.49	.49				
438B:															
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	57-75	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				
438C2:															
Aviston-----	0-10	1-7	70-80	15-27	1.25-1.45	0.6-2	0.20-0.24	0.0-2.9	2.0-4.0	.28	.28	5	6	48	
	10-57	1-7	57-75	24-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.5-1.0	.37	.37				
	57-80	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				
441B:															
Wakenda-----	0-13	1-7	68-80	18-27	1.20-1.30	0.6-2	0.20-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48	
	13-60	1-7	58-73	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37				
	60-80	1-7	65-75	20-30	1.20-1.50	0.6-2	0.20-0.22	3.0-5.9	0.1-0.5	.49	.49				
441C2:															
Wakenda-----	0-9	1-7	68-80	18-27	1.20-1.30	0.6-2	0.20-0.24	0.0-2.9	2.0-4.0	.28	.28	5	6	48	
	9-52	1-7	58-73	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37				
	52-80	1-7	65-75	20-30	1.20-1.50	0.6-2	0.20-0.22	3.0-5.9	0.1-0.5	.49	.49				

Table 19.--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					
474A:														
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			
477B:														
Winfield-----	0-9	1-7	64-78	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	64-78	20-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
477B3:														
Winfield-----	0-5	1-7	60-72	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.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	64-78	20-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
477C2:														
Winfield-----	0-6	1-7	64-78	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	64-78	20-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
477C3:														
Winfield-----	0-5	1-7	60-70	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37	5	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	64-78	20-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
477D3:														
Winfield-----	0-5	1-7	60-72	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.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	64-78	20-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
491B:														
Ruma-----	0-8	1-7	64-78	20-27	1.20-1.30	0.6-2	0.18-0.20	3.0-5.9	1.0-3.0	.43	.43	5	6	48
	8-56	1-7	61-75	22-35	1.25-1.40	0.6-2	0.18-0.22	3.0-5.9	0.2-0.8	.37	.37			
	56-80	5-30	45-70	20-30	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.37	.37			
491C2:														
Ruma-----	0-6	1-7	64-78	20-27	1.20-1.30	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	6-48	1-7	61-75	22-35	1.25-1.40	0.6-2	0.18-0.22	3.0-5.9	0.2-0.8	.37	.37			
	48-80	5-30	45-70	20-30	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.37	.37			
491D2:														
Ruma-----	0-6	1-7	64-78	20-27	1.20-1.30	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	6-48	1-7	61-75	22-35	1.25-1.40	0.6-2	0.18-0.22	3.0-5.9	0.2-0.8	.37	.37			
	48-80	5-30	45-70	20-30	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.37	.37			

Table 19.--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	Wind	
										Kw	Kf	T	erodi- bility group	erodi- bility index	
491D3:															
Ruma-----	0-5	1-7	55-72	27-35	1.20-1.30	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37	4	6	48	
	5-48	1-7	61-75	22-35	1.25-1.40	0.6-2	0.18-0.22	3.0-5.9	0.1-0.5	.37	.37				
	48-80	5-30	45-70	20-30	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.37	.37				
515B3:															
Bunkum-----	0-8	1-7	55-72	27-35	1.25-1.35	0.2-0.6	0.20-0.24	3.0-5.9	0.5-1.0	.37	.37	4	7	38	
	8-40	1-7	55-72	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				
515C3:															
Bunkum-----	0-8	1-7	55-72	27-35	1.25-1.35	0.2-0.6	0.20-0.24	3.0-5.9	0.5-1.0	.37	.37	4	7	38	
	8-40	1-7	55-72	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				
515D3:															
Bunkum-----	0-8	1-7	55-72	27-35	1.25-1.35	0.2-0.6	0.20-0.24	3.0-5.9	0.5-1.0	.37	.37	4	7	38	
	8-40	1-7	55-72	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				
517A:															
Marine-----	0-9	1-7	75-85	12-18	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	3	5	56	
	9-17	1-7	75-90	8-18	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	0.1-0.5	.49	.49				
	17-34	1-7	45-64	35-48	1.45-1.70	0.06-0.2	0.11-0.18	6.0-8.9	0.2-0.8	.37	.37				
	34-62	1-7	60-80	15-35	1.45-1.65	0.2-0.6	0.18-0.22	3.0-5.9	0.1-0.5	.37	.37				
	62-80	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				
517B:															
Marine-----	0-9	1-7	75-85	12-18	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	3	5	56	
	9-17	1-7	75-90	8-18	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	0.1-0.5	.49	.49				
	17-34	1-7	45-64	35-48	1.45-1.70	0.06-0.2	0.11-0.18	6.0-8.9	0.2-0.8	.37	.37				
	34-62	1-7	60-80	15-35	1.45-1.65	0.2-0.6	0.18-0.22	3.0-5.9	0.1-0.5	.37	.37				
	62-80	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				
533.															
Urban land															
536.															
Dumps															

Table 19.--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					
581B2:														
Tamalco-----	0-9	1-7	64-78	20-27	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	1.0-2.0	.43	.43	3	6	48
	9-19	1-7	48-64	35-45	1.35-1.60	0.01-0.06	0.09-0.14	6.0-8.9	0.5-1.0	.37	.37			
	19-39	1-7	60-75	22-35	1.50-1.70	0.06-0.2	0.14-0.18	3.0-5.9	0.2-0.8	.37	.37			
	39-60	5-30	45-70	20-30	1.55-1.75	0.2-0.6	0.14-0.20	3.0-5.9	0.1-0.5	.37	.37			
582B:														
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			
582C2:														
Homen-----	0-7	1-7	66-80	18-27	1.20-1.65	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	7-50	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			
	50-80	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			
585F:														
Negley-----	0-7	30-50	30-50	12-27	1.30-1.50	2-6	0.16-0.22	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	7-50	35-50	25-40	18-35	1.30-1.60	0.6-6	0.10-0.16	0.0-2.9	0.2-0.8	.28	.32			
	50-80	30-60	15-40	15-30	1.20-1.60	0.6-6	0.06-0.14	0.0-2.9	0.1-0.5	.28	.32			
630D3:														
Navlys-----	0-5	1-7	60-72	27-33	1.25-1.45	0.6-2	0.16-0.20	3.0-5.9	0.5-1.0	.37	.37	4	7	38
	5-26	1-7	60-72	25-35	1.30-1.50	0.6-2	0.16-0.18	3.0-5.9	0.1-0.5	.37	.37			
	26-80	1-7	68-80	18-27	1.30-1.50	0.6-2	0.18-0.20	0.0-2.9	0.1-0.3	.49	.49			
657A:														
Burksville-----	0-7	1-7	65-85	12-27	1.35-1.50	0.2-0.6	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	4	6	48
	7-13	1-7	65-85	12-25	1.40-1.55	0.06-0.2	0.20-0.22	0.0-2.9	0.1-0.5	.55	.55			
	13-54	1-7	58-73	25-35	1.45-1.65	0.06-0.2	0.11-0.14	3.0-5.9	0.2-0.8	.37	.37			
	54-80	1-7	60-80	18-35	1.55-1.75	0.06-0.2	0.10-0.15	3.0-5.9	0.1-0.5	.49	.49			
701F:														
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			
Hickory-----														
	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			

Table 19.--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					
702F:														
Ruma-----	0-8	1-7	65-80	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
	8-56	1-7	60-75	22-35	1.25-1.40	0.6-2	0.18-0.22	3.0-5.9	0.2-0.8	.37	.37			
	56-80	5-30	45-70	20-30	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.37	.37			
Hickory-----	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	25-48	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			
703A:														
Pierron-----	0-8	1-7	71-85	12-25	1.25-1.45	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	3	5	56
	8-20	1-7	70-88	10-22	1.30-1.50	0.06-0.2	0.15-0.20	0.0-2.9	0.1-0.5	.55	.55			
	20-36	1-7	46-64	35-45	1.35-1.60	0.01-0.06	0.10-0.18	6.0-8.9	0.1-0.5	.37	.37			
	36-66	1-7	54-70	27-42	1.35-1.60	0.01-0.06	0.12-0.18	6.0-8.9	0.1-0.5	.37	.37			
	66-80	5-30	45-70	20-30	1.30-1.55	0.06-0.2	0.14-0.20	3.0-5.9	0.1-0.5	.37	.37			
Burksville-----	0-7	1-7	66-85	12-27	1.35-1.50	0.2-0.6	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	4	6	48
	7-13	1-7	68-85	12-25	1.40-1.55	0.06-0.2	0.20-0.22	0.0-2.9	0.1-0.5	.55	.55			
	13-54	1-7	58-73	25-35	1.45-1.65	0.06-0.2	0.11-0.14	3.0-5.9	0.2-0.8	.37	.37			
	54-80	1-7	60-80	18-35	1.55-1.75	0.06-0.2	0.10-0.15	3.0-5.9	0.1-0.5	.49	.49			
801B:														
Orthents, silty----	0-60	1-7	68-80	18-27	1.35-1.55	0.2-2	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43	5	6	48
801D:														
Orthents, silty----	0-60	1-7	68-80	18-27	1.35-1.55	0.2-2	0.18-0.22	3.0-5.9	0.5-1.0	.43	.43	5	6	48
802B:														
Orthents, loamy----	0-6	30-50	31-45	18-27	1.70-1.75	0.2-0.6	0.18-0.22	3.0-5.9	0.5-1.0	.32	.32	5	4	86
	6-60	30-50	28-40	22-30	1.70-1.80	0.2-0.6	0.16-0.20	3.0-5.9	0.1-0.5	.32	.32			
802D:														
Orthents, loamy----	0-6	30-50	31-45	18-27	1.70-1.75	0.2-0.6	0.18-0.22	3.0-5.9	0.5-1.0	.32	.32	5	4	86
	6-60	30-50	28-52	22-30	1.70-1.80	0.2-0.6	0.16-0.20	3.0-5.9	0.1-0.5	.32	.32			
864, 865. Pits														
867. Oil waste land														

Table 19.--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	Wind
										Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
878C3:														
Coulterville-----	0-5	1-7	55-70	27-35	1.35-1.55	0.2-0.6	0.14-0.19	3.0-5.9	0.5-1.0	.37	.37	4	7	38
	5-20	1-7	55-75	22-35	1.40-1.60	0.06-0.2	0.14-0.24	3.0-5.9	0.2-0.8	.37	.37			
	20-48	1-7	60-80	15-35	1.45-1.60	0.06-0.2	0.10-0.15	3.0-5.9	0.2-0.8	.49	.49			
	48-80	5-30	45-70	15-30	1.40-1.60	0.2-0.6	0.05-0.10	0.0-2.9	0.1-0.5	.37	.37			
Grantfork-----	0-5	5-20	45-65	27-35	1.35-1.55	0.2-0.6	0.15-0.18	0.0-2.9	0.5-1.0	.37	.37	4	7	38
	5-37	10-35	35-55	20-35	1.40-1.60	0.2-0.6	0.15-0.20	0.0-2.9	0.1-0.4	.37	.37			
	37-67	15-45	35-55	18-35	1.65-1.80	0.2-0.6	0.15-0.20	0.0-2.9	0.1-0.3	.37	.37			
	67-80	15-40	30-50	24-48	1.65-1.80	0.06-0.2	0.07-0.10	3.0-5.9	0.1-0.2	.28	.28			
880B2:														
Coulterville-----	0-7	1-7	70-80	15-27	1.40-1.60	0.2-0.6	0.21-0.24	0.0-2.9	1.0-2.0	.43	.43	4	6	48
	7-23	1-7	55-75	22-35	1.40-1.60	0.06-0.2	0.14-0.24	3.0-5.9	0.2-0.8	.37	.37			
	23-68	1-7	60-80	15-35	1.45-1.60	0.06-0.2	0.10-0.15	3.0-5.9	0.2-0.8	.49	.49			
	68-80	5-30	45-70	15-30	1.40-1.60	0.2-0.6	0.05-0.10	0.0-2.9	0.1-0.5	.37	.37			
Darmstadt-----	0-11	1-7	72-80	12-27	1.30-1.50	0.06-0.2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	3	6	48
	11-21	1-7	55-70	27-35	1.40-1.65	0.06-0.2	0.11-0.20	3.0-5.9	0.2-0.8	.37	.37			
	21-39	1-7	60-75	20-35	1.40-1.65	0.01-0.06	0.11-0.20	3.0-5.9	0.2-0.8	.37	.37			
	39-62	1-7	65-79	20-30	1.40-1.60	0.06-0.2	0.10-0.15	3.0-5.9	0.1-0.5	.49	.49			
	62-80	5-30	45-70	20-30	1.40-1.60	0.06-0.2	0.10-0.15	0.0-2.9	0.1-0.3	.37	.37			
882B:														
Oconee-----	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			
Coulterville-----	0-7	1-7	70-80	15-27	1.40-1.60	0.2-0.6	0.21-0.24	0.0-2.9	1.0-2.0	.43	.43	4	6	48
	7-23	1-7	60-75	22-35	1.40-1.60	0.06-0.2	0.14-0.24	3.0-5.9	0.2-0.8	.37	.37			
	23-68	1-7	60-80	15-35	1.45-1.60	0.06-0.2	0.10-0.15	3.0-5.9	0.2-0.8	.49	.49			
	68-80	5-30	45-70	15-30	1.40-1.60	0.2-0.6	0.05-0.10	0.0-2.9	0.1-0.5	.37	.37			
Darmstadt-----	0-11	1-7	72-80	12-27	1.30-1.50	0.06-0.2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	3	6	48
	11-21	1-7	55-70	27-35	1.40-1.65	0.06-0.2	0.11-0.20	3.0-5.9	0.2-0.8	.37	.37			
	21-39	1-7	60-75	20-35	1.40-1.65	0.01-0.06	0.11-0.20	3.0-5.9	0.2-0.8	.37	.37			
	39-62	1-7	65-80	20-30	1.40-1.60	0.06-0.2	0.10-0.15	3.0-5.9	0.1-0.5	.49	.49			
	62-80	5-30	45-70	20-30	1.40-1.60	0.06-0.2	0.10-0.15	0.0-2.9	0.1-0.3	.37	.37			
885A:														
Virden-----	0-15	1-7	64-78	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	50-70	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			

Table 19.--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	Wind
										Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
885A:														
Fosterburg-----	0-13	1-7	64-78	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	50-64	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	65-80	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	64-78	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	50-63	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			
897D3:														
Bunkum-----	0-7	1-7	55-72	27-35	1.25-1.35	0.2-0.6	0.20-0.24	3.0-5.9	0.5-1.0	.37	.37	4	7	38
	7-40	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			
Atlas-----	0-7	5-20	40-60	30-40	1.35-1.55	0.06-0.2	0.14-0.19	6.0-8.9	0.5-1.0	.28	.28	2	7	38
	7-31	10-35	25-45	35-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.1-0.5	.28	.28			
	31-51	10-35	25-45	30-50	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.1-0.5	.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	0.1-0.5	.28	.28			
914C3:														
Atlas-----	0-7	5-20	40-60	30-40	1.35-1.55	0.06-0.2	0.14-0.19	6.0-8.9	0.5-1.0	.28	.28	2	7	38
	7-31	10-35	25-45	35-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.1-0.5	.28	.28			
	31-51	10-35	25-45	30-50	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.1-0.5	.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	0.1-0.5	.28	.28			
Grantfork-----	0-5	5-20	45-65	27-35	1.35-1.55	0.2-0.6	0.15-0.18	0.0-2.9	0.5-1.0	.37	.37	4	7	38
	5-37	10-35	35-55	20-35	1.40-1.60	0.2-0.6	0.15-0.20	0.0-2.9	0.1-0.4	.37	.37			
	37-67	15-45	35-55	18-35	1.65-1.80	0.06-0.2	0.15-0.20	0.0-2.9	0.1-0.3	.37	.37			
	67-80	15-40	30-50	24-48	1.65-1.80	0.06-0.2	0.07-0.10	3.0-5.9	0.1-0.2	.28	.28			

Table 19.--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					
914D3:														
Atlas-----	0-9	5-20	40-60	30-40	1.35-1.55	0.06-0.2	0.14-0.19	6.0-8.9	0.5-1.0	.28	.28	2	7	38
	9-31	10-35	25-55	35-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.1-0.5	.28	.28			
	31-51	10-35	25-50	30-50	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.1-0.5	.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	0.1-0.5	.28	.28			
Grantfork-----	0-5	5-20	45-65	27-35	1.35-1.55	0.2-0.6	0.15-0.18	0.0-2.9	0.5-1.0	.37	.37	4	7	38
	5-37	10-35	35-55	20-35	1.40-1.60	0.2-0.6	0.15-0.20	0.0-2.9	0.1-0.4	.37	.37			
	37-67	15-45	35-55	18-35	1.65-1.80	0.2-0.6	0.15-0.20	0.0-2.9	0.1-0.3	.37	.37			
	67-80	15-40	30-50	24-48	1.65-1.80	0.06-0.2	0.07-0.10	3.0-5.9	0.1-0.2	.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	1.0-3.0	.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			
Bold-----	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	10-18	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	0.1-0.5	.55	.55			
962F2:														
Sylvan-----	0-5	1-10	65-80	18-27	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.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			
Bold-----	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	10-18	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	0.1-0.5	.55	.55			
967F:														
Hickory-----	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			
Gosport-----	0-5	5-15	60-75	18-27	1.30-1.40	0.2-0.6	0.18-0.20	0.0-2.9	1.0-3.0	.43	.43	3	6	48
	5-32	5-25	25-50	36-58	1.50-1.60	0.01-0.06	0.12-0.14	6.0-8.9	0.1-0.5	.32	.32			
	32-60	---	---	---	---	0.01-0.06	---	---	---	---	---			
993A:														
Cowden-----	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	50-63	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 19.--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	Wind
										Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
993A:														
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			
1070L:														
Beaucoup, undrained	0-21	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
	21-42	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			
	42-60	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			
2071L:														
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			
Aquents.														
Urban land.														
2079D:														
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			
Orthents.														
Urban land.														
2113B:														
Oconee-----	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			
	47-58	1-7	58-78	20-35	1.40-1.60	0.06-0.2	0.16-0.21	3.0-5.9	0.2-0.8	.37	.37			
	58-80	5-30	45-70	20-30	1.40-1.60	0.06-0.2	0.20-0.22	3.0-5.9	0.1-0.5	.37	.37			
Orthents.														
Urban land.														
2122B:														
Colp-----	0-8	1-10	60-78	20-27	1.30-1.50	0.2-0.6	0.21-0.25	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	8-12	1-10	60-80	18-25	1.30-1.55	0.2-0.6	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
	12-70	5-15	35-60	35-60	1.45-1.70	0.06-0.2	0.10-0.17	6.0-8.9	0.1-0.5	.32	.32			
	70-80	5-15	40-60	30-45	1.50-1.70	0.06-0.2	0.10-0.18	6.0-8.9	0.1-0.5	.37	.37			

Table 19.--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					
2122B: Orthents. Urban land.														
2183A: Shaffton-----	0-10	20-45	30-50	27-35	1.45-1.55	0.6-2	0.20-0.22	3.0-5.9	2.0-4.0	.24	.24	5	6	48
	10-21	30-50	30-40	18-32	1.55-1.65	0.6-2	0.17-0.19	3.0-5.9	0.5-1.0	.28	.28			
	21-43	40-75	10-30	15-27	1.65-1.70	6-20	0.05-0.08	0.0-2.9	0.2-0.8	.24	.24			
	43-60	30-90	8-55	2-18	1.45-1.50	0.6-2	0.17-0.19	3.0-5.9	0.1-0.5	.32	.32			
Fluvents. Urban land.														
2284A: Tice-----	0-16	1-15	55-70	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
	16-72	1-15	55-75	22-35	1.30-1.50	0.6-2	0.18-0.21	3.0-5.9	0.5-1.0	.32	.32			
	72-80	5-50	45-70	10-30	1.40-1.60	0.6-2	0.11-0.18	3.0-5.9	0.1-0.5	.32	.32			
Fluvents. Urban land.														
2304B: Landes-----	0-14	50-75	15-40	7-20	1.40-1.60	2-6	0.13-0.20	0.0-2.9	2.0-3.0	.20	.20	4	3	86
	14-39	40-80	15-40	5-18	1.60-1.70	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.24	.24			
	39-80	40-90	5-55	5-18	1.60-1.80	6-20	0.05-0.15	0.0-2.9	0.1-0.5	.24	.24			
Fluvents. Urban land.														
2384B: Edwardsville-----	0-15	1-7	64-78	20-27	1.20-1.35	0.6-2	0.22-0.24	3.0-5.9	4.0-6.0	.28	.28	5	6	48
	15-57	1-7	60-75	20-35	1.30-1.50	0.6-2	0.18-0.22	3.0-5.9	0.5-2.0	.37	.37			
	57-80	1-7	68-80	18-25	1.30-1.55	0.6-2	0.20-0.22	0.0-2.9	0.2-0.8	.49	.49			
Orthents. Urban land.														

Table 19.--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					
2477B:														
Winfield-----	0-9	1-7	64-78	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	64-78	20-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
Orthents.														
Urban land.														
2592A:														
Nameoki-----	0-12	1-10	30-58	40-55	1.20-1.40	0.01-0.06	0.12-0.21	6.0-8.9	3.0-4.0	.24	.24	5	4	86
	12-28	5-15	30-55	35-60	1.30-1.50	0.01-0.06	0.11-0.18	6.0-8.9	0.5-1.0	.28	.28			
	28-54	10-55	30-50	15-35	1.45-1.70	0.6-2	0.12-0.20	3.0-5.9	0.2-0.8	.32	.32			
	54-80	15-90	5-55	5-30	1.50-1.80	0.6-6	0.05-0.18	0.0-2.9	0.1-0.5	.24	.24			
Fluvents.														
Urban land.														
2741B:														
Oakville-----	0-6	85-95	1-10	1-10	1.30-1.55	6-20	0.07-0.09	0.0-2.9	0.5-2.0	.02	.02	5	1	250
	6-18	80-95	1-10	1-10	1.30-1.65	6-20	0.06-0.10	0.0-2.9	0.1-0.5	.02	.02			
	18-60	85-95	1-10	1-10	1.40-1.65	6-20	0.05-0.07	0.0-2.9	0.1-0.3	.02	.02			
Psamments.														
Urban land.														
3038B:														
Rocher-----	0-5	30-50	40-55	10-18	1.55-1.75	2-6	0.20-0.24	0.0-2.9	0.5-1.0	.32	.32	5	4L	86
	5-53	50-90	5-32	5-18	1.65-1.85	2-6	0.12-0.17	0.0-2.9	0.2-0.8	.24	.24			
	53-62	50-90	5-34	2-16	1.50-1.90	2-6	0.05-0.10	0.0-2.9	0.1-0.5	.24	.24			
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	0.6-2	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	0.6-2	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	0.6-2	0.18-0.22	3.0-5.9	0.5-1.0	.32	.32			

Table 19.--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	Wind
										Kw	Kf	T	erodi- bility group	erodi- bility index
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			
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	45-70	10-20	1.30-1.50	0.6-2	0.18-0.24	0.0-2.9	0.1-0.5	.55	.55			
3334A:														
Birds-----	0-8	5-15	60-75	15-25	1.30-1.50	0.2-0.6	0.21-0.25	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	8-63	5-15	60-75	18-27	1.40-1.60	0.2-0.6	0.20-0.22	0.0-2.9	0.2-0.8	.49	.49			
	63-80	5-25	55-70	15-30	1.40-1.60	0.2-0.6	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
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			
3415A:														
Orion-----	0-7	5-15	65-80	12-22	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	7-35	5-15	65-80	12-18	1.20-1.30	0.6-2	0.20-0.22	0.0-2.9	0.2-0.8	.55	.55			
	35-54	5-15	60-75	15-30	1.25-1.45	0.6-2	0.18-0.22	0.0-2.9	3.0-6.0	.49	.49			
	54-66	10-60	30-70	10-24	1.20-1.40	0.6-2	0.18-0.22	0.0-2.9	0.1-0.5	.55	.55			
3428A:														
Coffeen-----	0-10	5-15	60-75	15-27	1.35-1.55	0.6-2	0.22-0.25	0.0-2.9	3.0-4.0	.32	.32	5	6	48
	10-47	5-15	70-80	12-18	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.49	.49			
	47-60	15-65	30-70	5-15	1.50-1.70	0.6-6	0.11-0.19	0.0-2.9	0.5-1.0	.55	.55			
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			
3592A:														
Nameoki-----	0-12	1-10	50-68	30-40	1.20-1.40	0.01-0.06	0.12-0.21	6.0-8.9	3.0-4.0	.24	.24	5	4	86
	12-28	5-15	30-55	35-60	1.30-1.50	0.01-0.06	0.11-0.18	6.0-8.9	0.5-1.0	.28	.28			
	28-54	10-55	30-50	15-35	1.45-1.70	0.6-2	0.12-0.20	3.0-5.9	0.2-0.8	.32	.32			
	54-80	15-90	5-55	5-30	1.50-1.80	0.6-6	0.05-0.18	0.0-2.9	0.1-0.5	.24	.24			
7037A:														
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			

Table 19.--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					
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			
7053B:														
Bloomfield-----	0-7	75-85	5-15	5-10	1.45-1.65	6-20	0.09-0.13	0.0-2.9	0.5-2.0	.02	.02	5	2	134
	7-35	75-95	3-15	2-10	1.45-1.65	6-20	0.08-0.12	0.0-2.9	0.2-0.8	.15	.15			
	35-60	72-90	5-15	5-13	1.60-1.80	2-20	0.08-0.12	0.0-2.9	0.1-0.5	.15	.15			
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	.43	.43	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	5-25	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-----	0-10	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
	10-33	1-15	65-75	22-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.49	.49			
	33-80	5-25	60-75	18-27	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.49	.49			
7122B:														
Colp-----	0-8	1-10	60-78	20-27	1.30-1.50	0.2-0.6	0.21-0.25	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	8-12	1-10	60-80	18-25	1.30-1.55	0.2-0.6	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
	12-70	5-15	35-60	35-60	1.45-1.70	0.06-0.2	0.10-0.17	6.0-8.9	0.1-0.5	.32	.32			
	70-80	5-15	40-60	30-45	1.50-1.70	0.06-0.2	0.10-0.18	6.0-8.9	0.1-0.5	.37	.37			
7122C:														
Colp-----	0-5	1-10	50-70	27-35	1.35-1.55	0.2-0.6	0.14-0.19	3.0-5.9	0.5-1.0	.32	.32	5	7	38
	5-70	5-15	35-60	35-60	1.45-1.70	0.06-0.2	0.10-0.17	6.0-8.9	0.1-0.5	.32	.32			
	70-80	5-15	40-60	30-45	1.50-1.70	0.06-0.2	0.10-0.18	6.0-8.9	0.1-0.5	.37	.37			
7150A:														
Onarga-----	0-16	50-70	20-35	8-15	1.15-1.45	0.6-6	0.13-0.22	0.0-2.9	2.0-4.0	.20	.20	4	3	86
	16-39	45-75	13-30	12-18	1.45-1.70	0.6-6	0.15-0.19	0.0-2.9	0.2-0.8	.32	.32			
	39-60	55-95	3-25	2-10	1.65-1.90	6-20	0.05-0.13	0.0-2.9	0.1-0.5	.02	.02			
7151A:														
Ridgeville-----	0-10	50-70	20-35	10-16	1.15-1.45	0.6-2	0.15-0.18	0.0-2.9	3.0-4.0	.20	.20	5	3	86
	10-34	45-70	18-35	12-18	1.45-1.70	0.6-2	0.15-0.19	0.0-2.9	0.5-1.5	.24	.24			
	34-60	50-95	2-30	3-10	1.55-1.90	2-6	0.09-0.13	0.0-2.9	0.1-0.5	.02	.02			
7338A:														
Hurst-----	0-7	1-15	60-78	20-30	1.25-1.45	0.2-0.6	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	3	6	48
	7-12	1-15	60-78	18-30	1.25-1.45	0.2-0.6	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
	12-62	1-15	35-60	35-55	1.45-1.70	0.01-0.06	0.10-0.17	6.0-8.9	0.1-0.5	.32	.32			
	62-80	5-20	35-65	27-45	1.50-1.70	0.01-0.06	0.10-0.18	6.0-8.9	0.1-0.5	.37	.37			

Table 19.--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					
7430A:														
Raddle-----	0-20	5-15	60-75	18-24	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	20-65	5-15	60-75	18-24	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.49	.49			
	65-80	5-25	55-70	15-27	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.1-1.0	.49	.49			
7432A:														
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	65-80	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	15-65	25-60	10-30	1.40-1.75	0.6-2	0.15-0.18	0.0-2.9	0.5-1.0	.32	.32			
	62-80	45-95	4-35	1-15	1.55-1.75	6-20	0.03-0.08	0.0-2.9	0.1-0.5	.24	.24			
7434B:														
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	20-65	20-50	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	70-95	3-20	2-10	1.55-1.85	6-20	0.05-0.10	0.0-2.9	0.1-0.5	.24	.24			
7445A:														
Newhaven-----	0-12	30-50	35-50	10-27	1.40-1.60	0.6-2	0.20-0.24	0.0-2.9	3.0-4.0	.32	.32	5	5	56
	12-56	30-70	20-30	18-35	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.5-1.5	.32	.32			
	56-80	65-95	3-20	2-13	1.60-1.80	2-20	0.05-0.10	0.0-2.9	0.1-0.5	.24	.24			
7741B:														
Oakville-----	0-11	85-95	1-10	1-10	1.30-1.55	6-20	0.07-0.09	0.0-2.9	0.5-2.0	.02	.02	5	1	250
	11-32	80-95	1-10	1-10	1.30-1.65	6-20	0.06-0.10	0.0-2.9	0.1-0.5	.02	.02			
	32-60	85-95	1-10	1-10	1.40-1.65	6-20	0.05-0.07	0.0-2.9	0.1-0.3	.02	.02			
7741C:														
Oakville-----	0-11	85-95	1-10	1-10	1.30-1.55	6-20	0.07-0.09	0.0-2.9	0.5-2.0	.02	.02	5	1	250
	11-32	80-95	1-10	1-10	1.30-1.65	6-20	0.06-0.10	0.0-2.9	0.1-0.5	.02	.02			
	32-60	85-95	1-10	1-10	1.40-1.65	6-20	0.05-0.07	0.0-2.9	0.1-0.3	.02	.02			
8038B:														
Rocher-----	0-5	30-50	40-55	10-18	1.55-1.75	2-6	0.20-0.24	0.0-2.9	0.5-1.0	.32	.32	5	4L	86
	5-53	50-90	5-32	5-18	1.65-1.85	2-6	0.12-0.17	0.0-2.9	0.2-0.8	.24	.24			
	53-62	50-90	5-34	2-16	1.50-1.90	2-6	0.05-0.10	0.0-2.9	0.1-0.5	.24	.24			
8070A:														
Beaucoup-----	0-16	1-15	55-70	27-35	1.15-1.35	0.6-2	0.15-0.20	3.0-5.9	5.0-6.0	.28	.28	5	7	38
	16-64	1-15	55-70	27-35	1.30-1.50	0.6-2	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	0.6-2	0.18-0.22	3.0-5.9	0.5-1.0	.32	.32			

Table 19.--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					
8071L:														
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			
8078A:														
Arenzville-----	0-31	1-10	70-85	12-18	1.20-1.55	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	31-56	1-10	60-80	15-30	1.25-1.45	0.6-2	0.18-0.22	3.0-5.9	2.0-4.0	.49	.49			
	56-70	5-15	55-75	15-30	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.2-0.8	.49	.49			
8180A:														
Dupo-----	0-9	1-10	70-85	12-18	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	9-25	1-10	70-85	10-18	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.55	.55			
	25-80	1-10	35-60	35-55	1.35-1.60	0.06-0.2	0.08-0.19	6.0-8.9	1.0-4.0	.28	.28			
8183A:														
Shaffton-----	0-10	20-45	30-50	27-35	1.45-1.55	0.6-2	0.20-0.22	3.0-5.9	2.0-4.0	.24	.24	5	6	48
	10-21	30-50	30-40	18-32	1.55-1.65	0.6-2	0.17-0.19	3.0-5.9	0.5-1.0	.28	.28			
	21-43	40-75	10-30	15-27	1.65-1.70	6-20	0.05-0.08	0.0-2.9	0.2-0.8	.24	.24			
	43-60	30-90	8-55	2-18	1.45-1.50	0.6-2	0.17-0.19	3.0-5.9	0.1-0.5	.32	.32			
8284A:														
Tice-----	0-16	1-15	55-70	27-35	1.25-1.45	0.6-2	0.21-0.24	3.0-5.9	2.0-4.0	.28	.28	5	7	38
	16-72	1-15	55-75	22-35	1.30-1.50	0.6-2	0.18-0.21	3.0-5.9	0.5-1.0	.32	.32			
	72-80	5-50	45-70	10-35	1.40-1.60	0.6-2	0.14-0.21	3.0-5.9	0.1-0.5	.32	.32			
8302A:														
Ambraw-----	0-11	5-25	45-65	27-39	1.25-1.45	0.6-2	0.15-0.19	3.0-5.9	3.0-4.0	.28	.28	5	7	38
	11-21	20-40	25-50	25-42	1.30-1.55	0.2-0.6	0.08-0.19	3.0-5.9	0.5-2.0	.28	.28			
	21-34	20-60	20-40	20-35	1.40-1.65	0.2-2	0.10-0.15	3.0-5.9	0.5-1.0	.28	.28			
	34-60	20-70	20-35	10-30	1.35-1.65	0.2-2	0.11-0.22	0.0-2.9	0.2-0.8	.24	.24			
8304B:														
Landes-----	0-14	50-75	15-40	7-20	1.40-1.60	2-6	0.13-0.20	0.0-2.9	2.0-3.0	.20	.20	4	3	86
	14-39	40-80	15-40	5-18	1.60-1.70	2-6	0.10-0.15	0.0-2.9	0.5-1.0	.24	.24			
	39-80	40-90	5-55	5-18	1.60-1.80	6-20	0.05-0.15	0.0-2.9	0.1-0.5	.24	.24			
8331A:														
Haymond-----	0-14	1-15	70-85	12-20	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	14-44	5-35	60-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	0.2-0.8	.49	.49			
	44-80	5-65	30-70	5-26	1.30-1.50	0.6-2	0.14-0.22	0.0-2.9	0.1-0.5	.55	.55			
8333A:														
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	45-70	10-20	1.30-1.50	0.6-2	0.18-0.24	0.0-2.9	0.1-0.5	.55	.55			

Table 19.--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	Wind
										Kw	Kf	T	erodi- bility group	erodi- bility index
8334A:														
Birds-----	0-8	5-15	60-75	15-25	1.30-1.50	0.2-0.6	0.21-0.25	0.0-2.9	1.0-3.0	.43	.43	5	6	56
	8-63	5-15	60-75	18-27	1.40-1.60	0.2-0.6	0.20-0.22	0.0-2.9	0.2-0.8	.49	.49			
	63-80	5-25	55-70	15-30	1.40-1.60	0.2-0.6	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
8415A:														
Orion-----	0-7	5-15	65-80	12-18	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	7-35	5-15	65-80	12-18	1.20-1.30	0.6-2	0.20-0.22	0.0-2.9	0.2-0.8	.55	.55			
	35-54	5-15	60-75	15-30	1.25-1.45	0.6-2	0.18-0.22	0.0-2.9	3.0-6.0	.49	.49			
	54-66	10-60	30-70	10-24	1.20-1.40	0.6-2	0.18-0.22	0.0-2.9	0.1-0.5	.55	.55			
8591A:														
Fults-----	0-12	1-10	35-55	40-55	1.20-1.40	0.01-0.06	0.19-0.21	6.0-8.9	3.0-4.0	.24	.24	5	4	86
	12-32	1-15	25-50	35-60	1.30-1.50	0.01-0.06	0.11-0.18	6.0-8.9	0.5-1.0	.28	.28			
	32-42	10-60	25-50	15-35	1.40-1.70	0.6-2	0.12-0.20	3.0-5.9	0.2-0.8	.32	.32			
	42-60	15-90	7-55	3-30	1.60-1.80	0.6-6	0.05-0.18	0.0-2.9	0.1-0.5	.24	.24			
8592A:														
Nameeki-----	0-12	1-10	30-58	40-55	1.20-1.40	0.01-0.06	0.12-0.21	6.0-8.9	3.0-4.0	.24	.24	5	4	86
	12-28	5-15	30-55	35-60	1.30-1.50	0.01-0.06	0.11-0.18	6.0-8.9	0.5-1.0	.28	.28			
	28-54	10-55	30-50	15-35	1.45-1.70	0.6-2	0.12-0.20	3.0-5.9	0.2-0.8	.32	.32			
	54-80	15-90	5-55	5-30	1.50-1.80	0.6-6	0.05-0.18	0.0-2.9	0.1-0.5	.24	.24			
8674A:														
Dozaville-----	0-16	5-15	60-75	18-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	16-45	5-15	60-75	18-24	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.49	.49			
	45-60	15-70	20-60	10-24	1.20-1.50	0.6-2	0.17-0.22	0.0-2.9	0.5-1.5	.49	.49			
	60-80	70-95	3-20	2-10	1.35-1.55	6-20	0.02-0.12	0.0-2.9	0.1-0.5	.24	.24			
8831A:														
Fluvaquents, clayey	0-80	5-25	25-45	35-60	1.40-1.60	0.01-0.06	0.06-0.18	6.0-8.9	1.0-3.0	.32	.32	5	8	56

Table 20.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Soil reaction	Cation- exchange capacity	Calcium carbonate	Sodium adsorp- tion ratio
	In	pH	meq/100 g	Pct	
8D3:					
Hickory-----	0-8	4.5-7.3	17-23	0	0
	8-46	4.5-6.0	16-22	0	0
	46-58	5.1-7.3	9.0-19	0	0
	58-80	5.6-8.4	5.0-15	0-25	0
8F:					
Hickory-----	0-4	4.5-7.3	14-19	0	0
	4-12	4.5-7.3	9.0-14	0	0
	12-46	4.5-6.0	16-22	0	0
	46-58	5.1-7.3	9.0-19	0	0
	58-80	5.6-8.4	5.0-15	0-25	0
31A:					
Pierron-----	0-8	4.5-7.3	5.0-15	0	0
	8-20	4.5-7.3	5.0-10	0	0
	20-36	3.5-5.5	20-35	0	0
	36-66	4.5-6.5	15-30	0	0
	66-80	5.1-7.3	12-17	0	0
35F:					
Bold-----	0-12	7.4-8.4	8.0-15	10-40	0
	12-60	7.4-8.4	7.0-12	10-50	0
46A:					
Herrick-----	0-13	5.1-7.3	18-24	0	0
	13-39	4.5-6.0	21-25	0	0
	39-60	5.6-7.3	15-25	0	0
	60-80	5.6-7.8	12-17	0-10	0
50A:					
Virden-----	0-15	5.6-7.3	23-28	0	0
	15-74	5.6-7.3	21-27	0	0
	74-80	5.6-7.8	15-20	0-10	0
79B:					
Menfro-----	0-10	5.1-7.3	10-16	0	0
	10-62	4.5-7.3	15-20	0	0
	62-80	5.6-7.8	5.0-10	0-5	0
79C2:					
Menfro-----	0-7	5.1-7.3	10-16	0	0
	7-56	4.5-7.3	15-20	0	0
	56-80	5.6-7.8	5.0-10	0-5	0
79C3:					
Menfro-----	0-5	5.1-7.3	16-20	0	0
	5-50	4.5-7.3	15-20	0	0
	50-80	5.6-7.8	5.0-10	0-5	0
79D2:					
Menfro-----	0-7	5.1-7.3	10-16	0	0
	7-56	4.5-7.3	15-20	0	0
	56-80	5.6-7.8	5.0-10	0-5	0
79D3:					
Menfro-----	0-5	5.1-7.3	16-20	0	0
	5-50	4.5-7.3	15-20	0	0
	50-80	5.6-7.8	5.0-10	0-5	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation- exchange capacity	Calcium carbonate	Sodium adsorp- tion ratio
	In	pH	meq/100 g	Pct	
79F:					
Menfro-----	0-9	5.1-7.3	10-16	0	0
	9-52	4.5-7.3	15-20	0	0
	52-80	5.6-7.8	5.0-10	0-5	0
79F3:					
Menfro-----	0-5	5.1-7.3	16-20	0	0
	5-50	4.5-7.3	15-20	0	0
	50-80	5.6-7.8	5.0-10	0-5	0
79G:					
Menfro-----	0-9	5.1-7.3	10-16	0	0
	9-52	4.5-7.3	15-20	0	0
	52-80	5.6-7.8	5.0-10	0-5	0
90A:					
Bethalto-----	0-8	5.6-7.3	16-24	0	0
	8-15	5.1-7.3	10-18	0	0
	15-70	5.1-7.8	15-28	0	0
	70-80	5.6-7.8	12-20	0-15	0
113A:					
Oconee-----	0-8	5.6-7.8	12-18	0	0
	8-16	4.5-7.3	10-18	0	0
	16-47	4.5-6.0	21-27	0	0
	47-65	5.1-6.5	12-21	0	0
	65-80	5.6-7.8	12-17	0	0
113B:					
Oconee-----	0-8	5.6-7.8	12-18	0	0
	8-16	4.5-7.3	10-18	0	0
	16-47	4.5-6.0	21-27	0	0
	47-65	5.1-6.5	12-21	0	0
	65-80	5.6-7.8	12-17	0	0
119C3:					
Elco-----	0-5	5.6-7.3	16-22	0	0
	5-33	5.1-7.8	14-22	0	0
	33-80	5.1-7.8	14-21	0	0
119D2:					
Elco-----	0-6	5.6-7.3	14-22	0	0
	6-33	5.1-7.8	14-22	0	0
	33-80	5.1-7.8	15-27	0	0
119D3:					
Elco-----	0-5	5.6-7.3	16-22	0	0
	5-33	5.1-7.8	14-22	0	0
	33-80	5.1-7.8	14-21	0	0
165A:					
Weir-----	0-9	4.5-7.3	9.0-22	0	0
	9-18	4.5-7.3	7.0-13	0	0
	18-62	4.5-6.0	21-25	0	0
	62-80	4.5-7.0	14-22	0	0
267A:					
Caseyville-----	0-7	5.6-7.3	16-24	0	0
	7-16	5.1-6.5	10-18	0	0
	16-62	5.1-6.5	15-28	0	0
	62-80	5.6-7.8	12-20	0-15	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation- exchange capacity	Calcium carbonate	Sodium adsorp- tion ratio
	In	pH	meq/100 g	Pct	
267B:					
Caseyville-----	0-7	5.6-7.3	16-24	0	0
	7-16	5.1-6.5	10-18	0	0
	16-62	5.1-6.5	15-28	0	0
	62-80	5.6-7.8	12-20	0-15	0
283B:					
Downsouth-----	0-13	5.1-7.3	15-25	0	0
	13-65	5.1-7.3	20-28	0	0
	65-80	5.6-7.8	12-20	0-15	0
283C2:					
Downsouth-----	0-9	5.1-7.3	15-25	0	0
	9-58	5.1-7.3	20-28	0	0
	58-80	5.6-7.8	12-20	0-15	0
384A:					
Edwardsville----	0-15	5.6-7.3	20-30	0	0
	15-57	5.1-7.8	20-30	0	0
	57-80	5.6-7.8	12-20	0-15	0
385A:					
Mascoutah-----	0-21	6.1-7.3	25-40	0	0
	21-58	6.1-7.8	25-35	0	0
	58-66	6.6-7.8	20-30	0-5	0
	66-80	6.6-8.4	12-20	0-15	0
438B:					
Aviston-----	0-16	5.6-7.3	15-25	0	0
	16-67	5.1-7.3	20-35	0	0
	67-80	5.6-7.8	10-20	0	0
438C2:					
Aviston-----	0-10	5.6-7.3	15-25	0	0
	10-57	5.1-7.3	20-35	0	0
	57-80	5.6-7.8	10-20	0	0
441B:					
Wakenda-----	0-13	5.6-7.3	12-22	0	0
	13-60	5.6-7.3	20-30	0	0
	60-80	5.6-7.3	10-20	0	0
441C2:					
Wakenda-----	0-9	5.6-7.3	12-22	0	0
	9-52	5.6-7.3	20-30	0	0
	52-80	5.6-7.3	10-20	0	0
474A:					
Piasa-----	0-8	5.6-7.8	11-16	0	0-5
	8-12	5.6-7.8	11-16	0	0-5
	12-48	6.1-9.0	21-26	0-10	15-25
	48-80	6.6-8.4	12-17	0-30	5-20
477B:					
Winfield-----	0-9	5.6-7.3	10-15	0	0
	9-13	5.6-7.3	12-17	0	0
	13-62	4.5-6.5	13-18	0	0
	62-80	5.1-7.3	10-14	0	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation- exchange capacity	Calcium carbonate	Sodium adsorp- tion ratio
	In	pH	meq/100 g	Pct	
477B3:					
Winfield-----	0-5	5.6-7.3	14-17	0	0
	5-48	4.5-6.5	13-18	0	0
	48-80	5.1-7.3	10-14	0	0
477C2:					
Winfield-----	0-6	5.6-7.3	10-15	0	0
	6-50	4.5-6.5	13-18	0	0
	50-80	5.1-7.3	10-14	0	0
477C3:					
Winfield-----	0-5	5.6-7.3	14-17	0	0
	5-48	4.5-6.5	13-18	0	0
	48-80	5.1-7.3	10-14	0	0
477D3:					
Winfield-----	0-5	5.6-7.3	14-17	0	0
	5-48	4.5-6.5	13-18	0	0
	48-80	5.1-7.3	10-14	0	0
491B:					
Ruma-----	0-8	5.6-7.3	15-22	0	0
	8-56	4.5-6.5	18-28	0	0
	56-80	5.1-7.3	12-20	0	0
491C2:					
Ruma-----	0-6	5.6-7.3	15-22	0	0
	6-48	4.5-6.5	18-28	0	0
	48-80	5.1-7.3	12-20	0	0
491D2:					
Ruma-----	0-6	5.6-7.3	15-22	0	0
	6-48	4.5-6.5	18-28	0	0
	48-80	5.1-7.3	12-20	0	0
491D3:					
Ruma-----	0-5	5.6-7.3	15-25	0	0
	5-48	4.5-6.5	18-28	0	0
	48-80	5.1-7.3	12-20	0	0
515B3:					
Bunkum-----	0-8	5.1-7.3	17-23	0	0
	8-40	4.5-6.5	18-24	0	0
	40-58	5.1-7.3	12-22	0	0
	58-80	5.1-7.3	12-17	0	0
515C3:					
Bunkum-----	0-8	5.1-7.3	17-23	0	0
	8-40	4.5-6.5	18-24	0	0
	40-58	5.1-7.3	12-22	0	0
	58-80	5.1-7.3	12-17	0	0
515D3:					
Bunkum-----	0-8	5.1-7.3	17-23	0	0
	8-40	4.5-6.5	18-24	0	0
	40-58	5.1-7.3	12-22	0	0
	58-80	5.1-7.3	12-17	0	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation- exchange capacity	Calcium carbonate	Sodium adsorp- tion ratio
	In	pH	meq/100 g	Pct	
517A:					
Marine-----	0-9	5.1-7.3	9.0-15	0	0
	9-17	4.5-6.5	5.0-10	0	0
	17-34	4.5-5.5	20-30	0	0
	34-62	5.1-7.3	10-20	0	0
	62-80	5.6-7.8	12-17	0	0
517B:					
Marine-----	0-9	5.1-7.3	9.0-15	0	0
	9-17	4.5-6.5	5.0-10	0	0
	17-34	4.5-5.5	20-30	0	0
	34-62	5.1-7.3	10-20	0	0
	62-80	5.6-7.8	12-17	0	0
533.					
Urban land					
536.					
Dumps					
581B2:					
Tamalco-----	0-9	4.5-7.3	16-22	0	0
	9-19	4.5-7.8	21-29	0	13-25
	19-39	7.4-9.0	12-23	0-10	15-25
	39-60	7.4-9.0	12-20	0-5	10-15
582B:					
Homen-----	0-9	5.6-7.3	15-25	0	0
	9-15	4.5-6.5	15-22	0	0
	15-58	4.5-6.0	18-28	0	0
	58-80	5.1-6.5	12-17	0	0
582C2:					
Homen-----	0-7	5.6-7.3	15-25	0	0
	7-50	4.5-6.0	18-28	0	0
	50-80	5.1-6.5	12-17	0	0
585F:					
Negley-----	0-7	4.5-7.3	6.0-22	0	0
	7-50	4.5-6.0	7.0-21	0	0
	50-80	4.5-6.0	9.0-23	0	0
630D3:					
Navlys-----	0-5	5.6-7.3	16-20	0	0
	5-26	5.6-7.3	15-23	0	0
	26-80	6.6-8.4	11-17	5-25	0
657A:					
Burksville-----	0-7	6.1-7.3	9.0-22	0	0
	7-13	6.1-7.8	6.0-17	0	1-5
	13-54	5.6-8.4	15-22	0-10	5-15
	54-80	6.6-8.4	11-22	0-20	5-15
701F:					
Menfro-----	0-9	5.1-7.3	10-16	0	0
	9-52	4.5-7.3	15-20	0	0
	52-80	5.6-7.8	5.0-10	0-5	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation- exchange capacity	Calcium carbonate	Sodium adsorp- tion ratio
	In	pH	meq/100 g	Pct	
701F:					
Hickory-----	0-4	4.5-7.3	14-19	0	0
	4-12	4.5-7.3	9.0-14	0	0
	12-46	4.5-6.0	16-22	0	0
	46-58	5.1-7.3	9.0-19	0	0
	58-80	5.6-8.4	5.0-15	0-25	0
702F:					
Ruma-----	0-8	5.6-7.3	15-22	0	0
	8-56	4.5-6.5	18-28	0	0
	56-80	5.1-7.3	12-20	0	0
Hickory-----	0-4	4.5-7.3	14-19	0	0
	4-12	4.5-7.3	9.0-14	0	0
	12-46	4.5-6.0	16-22	0	0
	46-58	5.1-7.3	9.0-19	0	0
	58-80	5.6-8.4	5.0-15	0-25	0
703A:					
Pierron-----	0-8	4.5-7.3	5.0-15	0	0
	8-20	4.5-7.3	5.0-10	0	0
	20-36	3.5-5.5	20-35	0	0
	36-66	4.5-6.5	15-30	0	0
	66-80	5.1-7.3	10-20	0	0
Burksville-----	0-7	6.1-7.3	9.0-22	0	0
	7-13	6.1-7.8	6.0-17	0	1-5
	13-54	5.6-8.4	15-22	0-10	5-15
	54-80	6.6-8.4	11-22	0-20	5-15
801B:					
Orthents, silty	0-60	5.1-6.5	8.0-20	0	0
801D:					
Orthents, silty	0-60	5.1-6.5	8.0-20	0	0
802B:					
Orthents, loamy	0-6	5.6-7.3	9.0-12	0	0
	6-60	5.6-7.3	9.0-20	0	0
802D:					
Orthents, loamy	0-6	5.6-7.3	9.0-12	0	0
	6-60	5.6-7.3	9.0-12	0	0
864, 865. Pits					
867. Oil waste land					
878C3:					
Coulterville----	0-5	5.6-7.8	9.0-18	0	0-5
	5-20	4.5-7.8	16-22	0	5-15
	20-48	7.4-8.4	11-22	0-10	5-15
	48-80	6.6-8.4	9.0-19	0-20	5-15
Grantfork-----	0-5	4.5-7.8	17-20	0	0-10
	5-37	5.1-8.4	12-18	0-10	5-15
	37-67	7.4-9.0	12-18	0-30	5-15
	67-80	7.4-9.0	12-18	0-30	0-15

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation- exchange capacity	Calcium carbonate	Sodium adsorp- tion ratio
	In	pH	meq/100 g	Pct	
880B2:					
Coulterville----	0-7	5.6-7.8	9.0-18	0	0-5
	7-23	4.5-7.8	16-22	0	5-15
	23-68	7.4-8.4	11-22	0-10	5-15
	68-80	6.6-8.4	12-17	0-20	5-15
Darmstadt-----	0-11	5.1-7.3	7.0-20	0	0-5
	11-21	4.5-7.8	16-23	0	5-15
	21-39	6.6-9.0	16-23	0-20	15-25
	39-62	7.4-9.0	12-17	0-30	5-25
	62-80	7.4-9.0	12-17	0-30	0-20
882B:					
Oconee-----	0-8	5.6-7.8	12-18	0	0
	8-16	4.5-7.3	10-18	0	0
	16-47	4.5-6.0	21-27	0	0
	47-65	5.1-6.5	12-21	0	0
	65-80	5.6-7.8	12-17	0	0
Coulterville----	0-7	5.6-7.8	9.0-18	0	0-5
	7-23	4.5-7.8	16-22	0	5-15
	23-68	7.4-8.4	11-22	0-10	5-15
	68-80	6.6-8.4	12-17	0-20	5-15
Darmstadt-----	0-11	5.1-7.3	7.0-20	0	0-5
	11-21	4.5-7.8	16-23	0	13-21
	21-39	6.6-9.0	16-23	0-20	15-25
	39-62	7.4-9.0	12-17	0-30	5-20
	62-80	7.4-9.0	12-17	0-30	5-20
885A:					
Virден-----	0-15	5.6-7.8	23-28	0	0
	15-74	5.6-7.8	21-27	0	0
	74-80	5.6-8.4	15-20	0-10	0
Fosterburg-----	0-13	6.1-7.8	20-27	0	0-5
	13-41	6.1-8.4	22-30	0-10	5-15
	41-71	6.1-8.4	20-28	0-15	5-10
	71-80	6.6-8.4	12-20	0-5	0-10
894A:					
Herrick-----	0-13	5.1-7.3	18-24	0	0
	13-39	4.5-6.0	21-25	0	0
	39-60	5.6-7.3	15-25	0	0
	60-80	5.6-7.8	12-17	0-10	0
Biddle-----	0-16	5.6-7.3	20-27	0	0
	16-36	5.6-8.4	22-30	0-5	5-15
	36-76	6.1-8.4	20-28	0-15	5-10
	76-80	6.6-8.4	12-17	0-15	0-10
Piasa-----	0-8	5.6-7.8	11-16	0	0-5
	8-12	5.6-7.8	11-16	0	0-5
	12-48	6.1-9.0	21-26	0-10	15-25
	48-80	6.6-8.4	12-17	0-30	5-20
897D3:					
Bunkum-----	0-7	5.1-7.3	17-23	0	0
	7-40	4.5-6.5	18-24	0	0
	40-58	5.1-7.3	12-22	0	0
	58-80	5.1-7.3	12-17	0	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation- exchange capacity	Calcium carbonate	Sodium adsorp- tion ratio
	In	pH	meq/100 g	Pct	
897D3:					
Atlas-----	0-7	4.5-7.3	19-26	0	0
	7-31	4.5-7.3	21-29	0	0
	31-51	4.5-7.8	18-29	0	0
	51-80	6.1-7.8	12-20	0-5	0
914C3:					
Atlas-----	0-7	4.5-7.3	19-26	0	0
	7-31	4.5-7.3	21-29	0	0
	31-51	4.5-7.8	18-29	0	0
	51-80	6.1-7.8	12-20	0-5	0
Grantfork-----	0-5	4.5-7.8	17-20	0	0-10
	5-37	5.1-8.4	12-18	0-10	5-15
	37-67	7.4-9.0	12-18	0-30	5-15
	67-80	7.4-9.0	12-18	0-30	5-15
914D3:					
Atlas-----	0-9	4.5-7.3	19-26	0	0
	9-31	4.5-7.3	21-29	0	0
	31-51	4.5-7.8	18-29	0	0
	51-80	6.1-7.8	12-20	0-5	0
Grantfork-----	0-5	4.5-7.8	17-20	0	0-10
	5-37	5.1-8.4	12-18	0-10	5-15
	37-67	7.4-9.0	12-18	0-30	5-15
	67-80	7.4-9.0	12-18	0-30	5-15
962D2:					
Sylvan-----	0-5	5.6-7.3	14-20	0	0
	5-30	5.6-7.3	15-22	0	0
	30-80	6.6-8.4	6.0-18	10-35	0
Bold-----	0-12	7.4-8.4	8.0-15	10-40	0
	12-60	7.4-8.4	7.0-12	10-50	0
962F2:					
Sylvan-----	0-5	5.6-7.3	14-20	0	0
	5-30	5.6-7.3	15-22	0	0
	30-80	6.6-8.4	6.0-18	10-35	0
Bold-----	0-12	7.4-8.4	8.0-15	10-40	0
	12-60	7.4-8.4	7.0-12	10-50	0
967F:					
Hickory-----	0-4	4.5-7.3	14-19	0	0
	4-12	4.5-7.3	9.0-14	0	0
	12-46	4.5-6.0	16-22	0	0
	46-58	5.1-7.3	9.0-19	0	0
	58-80	5.6-8.4	5.0-15	0-25	0
Gosport-----	0-5	5.1-6.5	15-20	0	0
	5-32	3.6-5.5	30-50	0	0
	32-60	---	---	---	---
993A:					
Cowden-----	0-8	5.6-7.3	14-22	0	0
	8-19	4.5-6.0	10-17	0	0
	19-50	4.5-7.3	21-27	0	0
	50-58	5.6-7.8	8.0-19	0	0
	58-80	5.6-7.8	12-17	0	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation- exchange capacity	Calcium carbonate	Sodium adsorp- tion ratio
	In	pH	meq/100 g	Pct	
993A:					
Piasa-----	0-8	5.6-7.8	11-16	0	0-5
	8-12	5.6-7.8	11-16	0	0-5
	12-48	6.1-9.0	21-26	0-10	15-25
	48-80	6.6-8.4	12-17	0-30	5-20
1070L:					
Beaucoup, undrained-----	0-21	5.6-7.8	26-33	0	0
	21-42	5.6-7.8	16-25	0-5	0
	42-60	6.1-7.8	9.0-20	0-15	0
2071L:					
Darwin-----	0-16	6.1-7.8	32-37	0	0
	16-62	6.1-7.8	27-40	0	0
	62-80	6.6-8.4	18-34	0-15	0
Aquents.					
Urban land.					
2079D:					
Menfro-----	0-9	5.1-7.3	10-16	0	0
	9-52	4.5-7.3	15-20	0	0
	52-80	5.6-7.8	5.0-10	0-5	0
Orthents.					
Urban land.					
2113B:					
Oconee-----	0-8	5.6-7.8	12-18	0	0
	8-16	4.5-7.3	10-18	0	0
	16-47	4.5-6.0	21-27	0	0
	47-58	5.1-6.5	12-21	0	0
	58-80	5.6-7.8	10-16	0	0
Orthents.					
Urban land.					
2122B:					
Colp-----	0-8	5.1-7.3	14-20	0	0
	8-12	5.1-7.3	11-16	0	0
	12-70	4.5-7.8	21-31	0-5	0
	70-80	4.5-8.4	18-28	0-15	0
Orthents.					
Urban land.					
2183A:					
Shaffton-----	0-10	5.1-7.3	25-30	0	0
	10-21	4.5-6.0	20-25	0	0
	21-43	4.5-6.0	10-15	0	0
	43-60	5.1-6.5	5.0-15	0	0
Fluvents.					
Urban land.					

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation- exchange capacity	Calcium carbonate	Sodium adsorp- tion ratio
	In	pH	meq/100 g	Pct	
2284A:					
Tice-----	0-16	6.1-7.8	17-22	0	0
	16-72	5.6-7.8	16-23	0	0
	72-80	5.6-7.8	9.0-20	0-5	0
Fluvents.					
Urban land.					
2304B:					
Landes-----	0-14	5.6-7.8	6.0-16	0	0
	14-39	5.6-8.4	3.0-15	0-10	0
	39-80	5.6-8.4	3.0-15	0-20	0
Fluvents.					
Urban land.					
2384B:					
Edwardsville----	0-15	5.6-7.3	20-30	0	0
	15-57	5.1-7.8	20-30	0	0
	57-80	5.6-7.8	12-20	0-15	0
Orthents.					
Urban land.					
2477B:					
Winfield-----	0-9	5.6-7.3	10-15	0	0
	9-13	5.6-7.3	12-17	0	0
	13-62	4.5-6.5	13-18	0	0
	62-80	5.1-7.3	10-14	0	0
Orthents.					
Urban land.					
2592A:					
Nameoki-----	0-12	5.6-7.8	28-44	0	0
	12-28	5.6-7.8	22-38	0	0
	28-54	5.6-7.8	9.0-22	0-5	0
	54-80	5.6-7.8	3.0-19	0-10	0
Fluvents.					
Urban land.					
2741B:					
Oakville-----	0-6	4.5-7.3	1.0-2.0	0	0
	6-18	4.5-7.3	1.0-2.0	0	0
	18-60	5.6-7.3	1.0-2.0	0	0
Psamments.					
Urban land.					
3038B:					
Rocher-----	0-5	6.6-8.4	7.0-12	0-20	0
	5-53	7.4-8.4	4.0-12	5-30	0
	53-62	6.6-8.4	2.0-10	5-30	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation- exchange capacity	Calcium carbonate	Sodium adsorp- tion ratio
	In	pH	meq/100 g	Pct	
3070A:					
Beaucoup-----	0-16	5.6-7.8	26-33	0	0
	16-64	5.6-7.8	16-25	0-5	0
	64-80	6.1-8.4	9.0-20	0-15	0
3070L:					
Beaucoup-----	0-16	5.6-7.8	26-33	0	0
	16-64	5.6-7.8	16-25	0-5	0
	64-80	6.1-8.4	6.0-20	0-15	0
3071L:					
Darwin-----	0-16	6.1-7.8	32-37	0	0
	16-62	6.1-7.8	27-40	0	0
	62-80	6.6-8.4	18-34	0-15	0
3333A:					
Wakeland-----	0-8	5.6-7.3	4.0-12	0	0
	8-68	5.6-7.8	4.0-12	0	0
	68-80	5.6-7.8	4.0-12	0	0
3334A:					
Birds-----	0-8	5.6-7.8	11-21	0	0
	8-63	5.1-7.8	11-20	0	0
	63-80	5.1-7.8	11-20	0	0
3336A:					
Wilbur-----	0-7	5.6-7.3	4.0-16	0	0
	7-41	5.6-7.8	4.0-15	0	0
	41-80	5.6-7.8	4.0-16	0	0
3415A:					
Orion-----	0-7	5.6-7.8	7.0-20	0	0
	7-35	5.6-7.8	7.0-20	0	0
	35-54	5.6-7.8	10-35	0	0
	54-66	5.6-7.8	5.0-15	0	0
3428A:					
Coffeen-----	0-10	5.6-7.8	13-22	0	0
	10-47	5.6-7.3	6.0-15	0	0
	47-60	5.6-7.3	3.0-13	0	0
3451A:					
Lawson-----	0-14	6.1-7.8	11-28	0	0
	14-33	6.1-7.8	11-29	0	0
	33-80	6.1-7.8	11-23	0	0
3592A:					
Nameoki-----	0-12	5.6-7.8	28-44	0	0
	12-28	5.6-7.8	22-38	0	0
	28-54	5.6-7.8	9.0-22	0-5	0
	54-80	5.6-7.8	3.0-19	0-10	0
7037A:					
Worthen-----	0-30	5.6-7.3	15-21	0	0
	30-63	5.6-7.8	11-14	0	0
	63-80	6.1-8.4	9.0-14	0-25	0
7037B:					
Worthen-----	0-30	5.6-7.3	15-21	0	0
	30-63	5.6-7.8	11-14	0	0
	63-80	6.1-8.4	9.0-14	0-25	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation- exchange capacity	Calcium carbonate	Sodium adsorp- tion ratio
	In	pH	meq/100 g	Pct	
7053B:					
Bloomfield-----	0-7	5.1-7.8	4.0-10	0	0
	7-35	5.1-7.3	1.0-7.0	0	0
	35-60	5.1-7.8	3.0-8.0	0	0
7075B:					
Drury-----	0-7	5.6-8.4	8.0-16	0	0
	7-43	5.6-7.3	11-15	0	0
	43-80	6.1-7.8	9.0-12	0-15	0
7081A:					
Littleton-----	0-10	5.6-7.8	15-25	0	0
	10-33	5.6-7.8	15-25	0	0
	33-80	5.6-7.8	11-18	0	0
7122B:					
Colp-----	0-8	5.1-7.3	14-20	0	0
	8-12	5.1-7.3	11-16	0	0
	12-70	4.5-7.8	21-31	0-5	0
	70-80	4.5-8.4	18-28	0-15	0
7122C:					
Colp-----	0-5	5.1-7.3	17-23	0	0
	5-70	4.5-7.8	21-31	0-5	0
	70-80	4.5-8.4	18-28	0-15	0
7150A:					
Onarga-----	0-16	5.6-7.8	12-24	0	0
	16-39	4.5-7.3	17-29	0	0
	39-60	5.1-7.3	5.0-15	0	0
7151A:					
Ridgeville-----	0-10	5.6-6.5	12-24	0	0
	10-34	5.6-6.5	17-29	0	0
	34-60	6.6-7.8	5.0-15	0	0
7338A:					
Hurst-----	0-7	5.1-7.3	14-20	0	0
	7-12	3.5-6.0	11-19	0	0
	12-62	3.5-7.8	21-29	0	0
	62-80	5.1-8.4	12-27	0-5	0
7430A:					
Raddle-----	0-20	5.6-7.3	11-22	0	0
	20-65	5.6-7.3	12-18	0	0
	65-80	5.6-7.8	15-23	0	0
7432A:					
Geff-----	0-5	5.6-7.3	13-22	0	0
	5-12	4.5-7.3	12-18	0	0
	12-33	4.5-6.0	14-21	0	0
	33-62	4.5-7.3	9.0-18	0	0
	62-80	5.1-7.3	1.0-3.0	0	0
7434B:					
Ridgway-----	0-8	5.1-7.3	10-20	0	0
	8-27	4.5-7.3	18-25	0	0
	27-52	4.5-6.5	8.0-22	0	0
	52-80	5.6-7.3	2.0-10	0	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation- exchange capacity	Calcium carbonate	Sodium adsorp- tion ratio
	In	pH	meq/100 g	Pct	
7445A:					
Newhaven-----	0-12	6.1-7.3	12-24	0	0
	12-56	4.5-7.3	17-29	0	0
	56-80	5.6-7.3	5.0-15	0	0
7741B:					
Oakville-----	0-11	4.5-7.3	1.0-2.0	0	0
	11-32	4.5-7.3	1.0-2.0	0	0
	32-60	5.6-7.3	1.0-2.0	0	0
7741C:					
Oakville-----	0-11	4.5-7.3	1.0-2.0	0	0
	11-32	4.5-7.3	1.0-2.0	0	0
	32-60	5.6-7.3	1.0-2.0	0	0
8038B:					
Rocher-----	0-5	6.6-8.4	7.0-12	0-20	0
	5-53	7.4-8.4	4.0-12	5-30	0
	53-62	6.6-8.4	2.0-10	5-30	0
8070A:					
Beaucoup-----	0-16	5.6-7.8	26-33	0	0
	16-64	5.6-7.8	16-25	0-5	0
	64-80	6.1-8.4	6.0-20	0-15	0
8071L:					
Darwin-----	0-16	6.1-7.8	32-37	0	0
	16-62	6.1-7.8	27-40	0-5	0
	62-80	6.6-8.4	18-34	0-15	0
8078A:					
Arenzville-----	0-31	5.6-7.8	6.0-12	0	0
	31-56	5.6-7.8	10-18	0	0
	56-70	5.6-7.8	10-16	0	0
8180A:					
Dupo-----	0-9	5.6-7.8	8.0-15	0	0
	9-25	5.6-7.8	6.0-12	0	0
	25-80	5.6-7.8	21-29	0-5	0
8183A:					
Shaffton-----	0-10	5.1-7.3	25-30	0	0
	10-21	4.5-6.0	20-25	0	0
	21-43	4.5-6.0	10-15	0	0
	43-60	5.1-6.5	5.0-15	0	0
8284A:					
Tice-----	0-16	6.1-7.8	20-27	0	0
	16-72	5.1-7.3	16-23	0	0
	72-80	5.1-7.8	9.0-20	0-5	0
8302A:					
Ambraw-----	0-11	5.6-7.3	20-27	0	0
	11-15	5.1-7.3	19-29	0	0
	15-34	5.1-7.3	15-23	0	0
	34-60	5.6-8.4	11-19	0-5	0
8304B:					
Landes-----	0-14	5.6-7.8	6.0-16	0	0
	14-39	5.6-8.4	3.0-15	0-10	0
	39-80	5.6-8.4	3.0-15	0-20	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Cation- exchange capacity	Calcium carbonate	Sodium adsorp- tion ratio
	In	pH	meq/100 g	Pct	
8331A:					
Haymond-----	0-14	5.6-7.8	4.0-15	0	0
	14-44	5.6-7.8	10-16	0	0
	44-80	6.1-7.8	3.0-16	0	0
8333A:					
Wakeland-----	0-8	5.6-7.3	4.0-12	0	0
	8-68	5.6-7.8	4.0-12	0	0
	68-80	5.6-7.8	4.0-12	0	0
8334A:					
Birds-----	0-8	5.6-7.8	11-21	0	0
	8-63	5.1-7.8	11-20	0	0
	63-80	5.1-7.8	11-20	0	0
8415A:					
Orion-----	0-7	5.6-7.8	7.0-20	0	0
	7-35	5.6-7.8	7.0-20	0	0
	35-54	5.6-7.8	10-35	0	0
	54-66	5.6-7.8	5.0-15	0	0
8591A:					
Fults-----	0-12	5.6-7.8	30-44	0	0
	12-32	5.6-7.8	21-38	0	0
	32-42	5.6-7.8	6.0-20	0-5	0
	42-60	5.6-7.8	1.0-12	0-10	0
8592A:					
Nameoki-----	0-12	5.6-7.8	28-44	0	0
	12-28	5.6-7.8	22-38	0	0
	28-54	5.6-7.8	9.0-22	0-5	0
	54-80	5.6-7.8	3.0-19	0-10	0
8674A:					
Dozaville-----	0-16	5.6-7.3	15-22	0	0
	16-45	5.6-7.3	12-18	0	0
	45-60	5.6-7.8	10-18	0	0
	60-80	5.6-7.8	2.0-10	0-5	0
8831A:					
Fluvaquents, clayey-----	0-80	5.6-7.8	12-26	0-10	0

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft		Ft				
441C2: Wakenda-----	B	Jan	>6.0	>6.0	---	---	---	---	---	None
		Feb-Apr	4.0-6.0	>6.0	Apparent	---	---	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	---	---	None
474A: Piassa-----	D	Jan-May	0.0-1.0	2.5-4.0	Perched	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
477B: Winfield-----	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	>6.0	Apparent	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
477B3: Winfield-----	B	Jan	>6.0	>6.0	---	---	---	---	---	None
		Feb-Apr	2.0-3.5	>6.0	Apparent	---	---	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	---	---	None
477C2: Winfield-----	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	>6.0	Apparent	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
477C3: Winfield-----	B	Jan	>6.0	>6.0	---	---	---	---	---	None
		Feb-Apr	2.0-3.5	>6.0	Apparent	---	---	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	---	---	None
477D3: Winfield-----	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	>6.0	Apparent	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
491B: Ruma-----	B	Jan	>6.0	>6.0	---	---	---	---	---	None
		Feb-Apr	4.0-6.0	>6.0	Apparent	---	---	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	---	---	None
491C2: Ruma-----	B	Jan	>6.0	>6.0	---	---	---	---	---	None
		Feb-Apr	4.0-6.0	>6.0	Apparent	---	---	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	---	---	None
491D2: Ruma-----	B	Jan	>6.0	>6.0	---	---	---	---	---	None
		Feb-Apr	4.0-6.0	>6.0	Apparent	---	---	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	---	---	None
491D3: Ruma-----	B	Jan	>6.0	>6.0	---	---	---	---	---	None
		Feb-Apr	4.0-6.0	>6.0	Apparent	---	---	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	---	---	None
515B3: Bunkum-----	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
515C3: Bunkum-----	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Months	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft		Ft				
515D3: Bunkum-----	C	Jan-May	1.0-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
517A: Marine-----	C	Jan-May	0.5-2.0	1.5-3.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
517B: Marine-----	C	Jan-May	0.5-2.0	1.5-3.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
533. Urban land										
536. Dumps										
581B2: Tamalco-----	D	Jan-Feb	>6.0	>6.0	---	---	---	---	---	None
		Mar-Apr	2.5-5.0	>6.0	Apparent	---	---	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	---	---	None
582B: Homen-----	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	3.5-6.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
582C2: Homen-----	B	Jan	>6.0	>6.0	---	---	---	None	---	None
		Feb-Apr	2.0-3.5	3.5-6.0	Perched	---	---	None	---	None
		May-Dec	>6.0	>6.0	---	---	---	None	---	None
585F: Negley-----	B	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
630D3: Navlys-----	B	Jan	>6.0	>6.0	---	---	---	---	---	None
		Feb-Apr	2.0-3.5	>6.0	Apparent	---	---	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	---	---	None
657A: Burksville-----	D	Jan-May	0.0-1.0	2.5-4.0	Perched	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
701F: Menfro-----	B	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
Hickory-----	B	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
702F: Ruma-----	B	Jan	>6.0	>6.0	---	---	---	---	---	None
		Feb-Apr	4.0-6.0	>6.0	Apparent	---	---	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	---	---	None
Hickory-----	B	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
703A: Pierron-----	D	Jan-Apr	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		May	0.0-1.0	>6.0	Apparent	---	---	---	---	None
		Jun-Oct	>6.0	>6.0	---	---	---	---	---	None
		Nov-Dec	>6.0	>6.0	---	0.0-0.5	Brief	Frequent	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft		Ft				
703A:										
Burksville-----	D	Jan-Apr	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		May	0.0-1.0	>6.0	Apparent	---	---	---	---	None
		Jun-Oct	>6.0	>6.0	---	---	---	---	---	None
		Nov-Dec	>6.0	>6.0	---	0.0-0.5	Brief	Frequent	---	None
801B:										
Orthents, silty-----	C	Jan-May	1.0-3.5	>6.0	Apparent	---	---	---	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
801D:										
Orthents, silty-----	C	Jan-May	1.0-3.5	>6.0	Apparent	---	---	---	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
802B:										
Orthents, loamy-----	B	Jan-Apr	3.5-6.0	>6.0	Apparent	---	---	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	---	---	None
802D:										
Orthents, loamy-----	B	Jan-Apr	3.5-6.0	>6.0	Apparent	---	---	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	---	---	None
864, 865. Pits										
867. Oil waste land										
878C3:										
Coulterville-----	D	Jan-May	0.5-2.0	2.5-4.0	Perched	---	---	---	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
Grantfork-----	D	Jan-May	0.5-2.0	2.5-4.0	Perched	---	---	---	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
880B2:										
Coulterville-----	D	Jan-May	0.5-2.0	2.5-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Darmstadt-----	D	Jan-May	0.5-2.0	2.5-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
882B:										
Oconee-----	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Coulterville-----	D	Jan-May	0.5-2.0	2.5-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Darmstadt-----	D	Jan-May	0.5-2.0	2.5-4.0	Perched	---	---	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
885A:										
Virden-----	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None
Fosterburg-----	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	None	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	None	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Months	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft		Ft				
894A: Herrick-----	B	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0 >6.0	Apparent ---	--- ---	--- ---	--- ---	--- ---	None None
Biddle-----	C	Jan-May Jun-Dec	1.0-2.0 >6.0	2.5-4.0 >6.0	Perched ---	--- ---	--- ---	--- ---	--- ---	None None
Piasa-----	D	Jan-May Jun-Dec	0.0-1.0 >6.0	2.5-4.0 >6.0	Perched ---	0.0-0.5 ---	Brief ---	Frequent ---	--- ---	None None
897D3: Bunkum-----	C	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0 >6.0	Apparent ---	--- ---	--- ---	None None	--- ---	None None
Atlas-----	D	Jan-May Jun-Dec	0.5-2.0 >6.0	1.2-2.5 >6.0	Perched ---	--- ---	--- ---	None None	--- ---	None None
914C3: Atlas-----	D	Jan-May Jun-Dec	0.5-2.0 >6.0	1.2-2.5 >6.0	Perched ---	--- ---	--- ---	None None	--- ---	None None
Grantfork-----	D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.5-4.0 >6.0	Perched ---	--- ---	--- ---	None None	--- ---	None None
914D3: Atlas-----	D	Jan-May Jun-Dec	0.5-1.5 >6.0	1.2-2.5 >6.0	Perched ---	--- ---	--- ---	--- ---	--- ---	None None
Grantfork-----	D	Jan-May Jun-Dec	0.5-2.0 >6.0	2.5-4.0 >6.0	Perched ---	--- ---	--- ---	--- ---	--- ---	None None
962D2: Sylvan-----	B	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
Bold-----	B	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
962F2: Sylvan-----	B	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
Bold-----	B	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
967F: Hickory-----	B	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
Gosport-----	C	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
993A: Cowden-----	D	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---	0.0-0.5 ---	Brief ---	Frequent None	--- ---	None None
Piasa-----	D	Jan-May Jun-Dec	0.0-1.0 >6.0	2.5-4.0 >6.0	Perched ---	0.0-0.5 ---	Brief ---	Frequent Frequent	--- ---	None None
1070L: Beaucoup, undrained---	D	Jan-Jun Jul-Oct Nov-Dec	0.0-1.0 0.0-1.0 0.0-1.0	>6.0 >6.0 >6.0	Apparent Apparent Apparent	0.0-1.0 0.0-1.0 0.0-1.0	Long Long Long	Frequent Frequent Frequent	Long --- Long	Occasional None Occasional

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Months	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft		Ft				
2304B: Fluents-----	---	Jan-Feb	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Mar-Jun	1.5-3.0	>6.0	Apparent	---	---	---	Brief	Occasional
		Jul-Dec	>6.0	>6.0	---	---	---	---	---	None
Urban land.										
2384B: Edwardsville-----	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	---	---	None
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
Orthents.										
Urban land.										
2477B: Winfield-----	B	Jan	>6.0	>6.0	---	---	---	---	---	None
		Feb-Apr	2.0-3.5	>6.0	Apparent	---	---	---	---	None
		May-Dec	>6.0	>6.0	---	---	---	---	---	None
Orthents.										
Urban land.										
2592A: Nameoki-----	D	Jan	1.0-2.0	>6.0	Apparent	---	---	---	---	None
		Feb-May	1.0-2.0	>6.0	Apparent	---	---	---	Brief	Occasional
		Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Dec	>6.0	>6.0	---	---	---	---	---	None
Fluents-----	---	Jan	>6.0	>6.0	---	---	---	---	---	None
		Feb	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Mar-Jun	1.5-3.0	>6.0	Apparent	---	---	---	Brief	Occasional
		Jul-Dec	>6.0	>6.0	---	---	---	---	---	None
Urban land.										
2741B: Oakville-----	A	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
Psamments.										
Urban land.										
3038B: Rocher-----	B	Jan-Jun	>6.0	>6.0	---	---	---	None	Brief	Frequent
		Jul-Dec	>6.0	>6.0	---	---	---	None	---	None
3070A: Beaucoup-----	B/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	Brief	Frequent
		Jun	>6.0	>6.0	---	---	---	---	Brief	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	---	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	---	Brief	Frequent
3070L: Beaucoup-----	B/D	Jan-Jun	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	Long	Frequent
		Jul-Oct	>6.0	>6.0	---	---	---	---	---	None
		Nov-Dec	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	Long	Frequent

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft						
8070A: Beaucoup-----	B	Jan-Apr	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	Brief	Occasional
		May	0.0-1.0	>6.0	Apparent	---	---	---	Brief	Occasional
		Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Oct	>6.0	>6.0	---	---	---	---	---	None
		Nov-Dec	>6.0	>6.0	---	0.0-0.5	Brief	Frequent	Brief	Occasional
8071L: Darwin-----	D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	Long	Occasional
		Jun	>6.0	>6.0	---	---	---	---	Long	Occasional
		Jul-Oct	>6.0	>6.0	---	---	---	---	---	None
		Nov-Dec	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	Long	Occasional
8078A: Arenzville-----	B	Jan-Apr	4.0-6.0	>6.0	Apparent	---	---	---	Brief	Occasional
		May-Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Dec	>6.0	>6.0	---	---	---	---	---	None
8180A: Dupo-----	C	Jan-May	0.5-2.0	1.5-6.0	Perched	---	---	---	Brief	Occasional
		Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Dec	>6.0	>6.0	---	---	---	---	---	None
8183A: Shaffton-----	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	---	Brief	Occasional
		Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Dec	>6.0	>6.0	---	---	---	---	---	None
8284A: Tice-----	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	---	Brief	Occasional
		Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Dec	>6.0	>6.0	---	---	---	---	---	None
8302A: Ambraw-----	B/D	Jan-Apr	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	Brief	Occasional
		May	0.0-1.0	>6.0	Apparent	---	---	---	Brief	Occasional
		Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Oct	>6.0	>6.0	---	---	---	---	---	None
		Nov-Dec	>6.0	>6.0	---	0.0-0.5	Brief	Frequent	Brief	Occasional
8304B: Landes-----	B	Jan-May	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jun-Dec	>6.0	>6.0	---	---	---	---	---	None
8331A: Haymond-----	B	Jan-Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Oct	>6.0	>6.0	---	---	---	---	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	---	Brief	Occasional
8333A: Wakeland-----	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	---	Brief	Occasional
		Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Dec	>6.0	>6.0	---	---	---	---	---	None
8334A: Birds-----	C/D	Jan-May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	Brief	Occasional
		Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Oct	>6.0	>6.0	---	---	---	---	---	None
		Nov-Dec	>6.0	>6.0	---	0.0-0.5	Brief	Frequent	---	None

Table 21.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Months	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
8415A: Orion-----	C	Jan-May	0.5-2.0	>6.0	Apparent	---	---	---	Brief	Occasional
		Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Dec	>6.0	>6.0	---	---	---	---	---	None
8591A: Fults-----	D	Jan-Apr	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	Brief	Occasional
		May	0.0-1.0	>6.0	Apparent	---	---	---	Brief	Occasional
		Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Oct	>6.0	>6.0	---	---	---	---	---	None
		Nov-Dec	>6.0	>6.0	---	0.0-0.5	Brief	Frequent	---	None
8592A: Nameoki-----	D	Jan-May	1.0-2.0	>6.0	Apparent	---	---	---	Brief	Occasional
		Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Dec	>6.0	>6.0	---	---	---	---	---	None
8674A: Dozaville-----	B	Jan-Jun	>6.0	>6.0	---	---	---	---	Brief	Occasional
		Jul-Oct	>6.0	>6.0	---	---	---	---	---	None
		Nov-Dec	>6.0	>6.0	---	---	---	---	Brief	Occasional
8831A: Fluvaquents, clayey---	---	Jan-Jun	0.0-1.0	>6.0	Apparent	0.0-0.5	Very long	Frequent	Brief	Occasional
		Jul-Oct	>6.0	>6.0	---	0.0-0.5	Very long	Frequent	---	None
		Nov-Dec	0.0-1.0	>6.0	Apparent	0.0-0.5	Very long	Frequent	---	None

Table 22.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
8D3: Hickory-----	---	---	Moderate	Moderate	Moderate
8F: Hickory-----	---	---	Moderate	Moderate	Moderate
31A: Pierron-----	---	---	High	High	High
35F: Bold-----	---	---	High	Low	Low
46A: Herrick-----	---	---	High	High	High
50A: Virden-----	---	---	High	High	Moderate
79B: Menfro-----	---	---	High	Low	Moderate
79C2: Menfro-----	---	---	High	Low	Moderate
79C3: Menfro-----	---	---	High	Low	Moderate
79D2: Menfro-----	---	---	High	Low	Moderate
79D3: Menfro-----	---	---	High	Low	Moderate
79F: Menfro-----	---	---	High	Low	Moderate
79F3: Menfro-----	---	---	High	Low	Moderate
79G: Menfro-----	---	---	High	Low	Moderate
90A: Bethalto-----	---	---	High	High	Moderate
113A: Oconee-----	---	---	High	High	High
113B: Oconee-----	---	---	High	High	High
119C3: Elco-----	---	---	High	High	Moderate
119D2: Elco-----	---	---	High	High	Moderate
119D3: Elco-----	---	---	High	High	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth		Uncoated steel	Concrete
		to top			
		In			
165A: Weir-----	---	---	High	High	High
267A: Caseyville-----	---	---	High	High	Moderate
267B: Caseyville-----	---	---	High	High	Moderate
283B: Downsouth-----	---	---	High	Moderate	Moderate
283C2: Downsouth-----	---	---	High	Moderate	Moderate
384A: Edwardsville-----	---	---	High	High	Low
385A: Mascoutah-----	---	---	High	High	Low
438B: Aviston-----	---	---	High	High	Moderate
438C2: Aviston-----	---	---	High	High	Moderate
441B: Wakenda-----	---	---	High	Low	Moderate
441C2: Wakenda-----	---	---	High	Low	Moderate
474A: Piassa-----	---	---	High	High	Low
477B: Winfield-----	---	---	High	Moderate	Moderate
477B3: Winfield-----	---	---	High	Moderate	Moderate
477C2: Winfield-----	---	---	High	Moderate	Moderate
477C3: Winfield-----	---	---	High	Moderate	Moderate
477D3: Winfield-----	---	---	High	Moderate	Moderate
491B: Ruma-----	---	---	High	High	High
491C2: Ruma-----	---	---	High	High	High
491D2: Ruma-----	---	---	High	High	High
491D3: Ruma-----	---	---	High	High	High

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
515B3: Bunkum-----	---	---	High	High	High
515C3: Bunkum-----	---	---	High	High	High
515D3: Bunkum-----	---	---	High	High	High
517A: Marine-----	---	---	High	High	High
517B: Marine-----	---	---	High	High	High
533. Urban land					
536. Dumps					
581B2: Tamalco-----	---	---	High	High	Low
582B: Homen-----	---	---	High	High	High
582C2: Homen-----	---	---	High	High	High
585F: Negley-----	---	---	Moderate	Low	High
630D3: Navlys-----	---	---	High	Moderate	Moderate
657A: Burksville-----	---	---	High	High	Low
701F: Menfro-----	---	---	High	Low	Moderate
Hickory-----	---	---	Moderate	Moderate	Moderate
702F: Ruma-----	---	---	High	High	High
Hickory-----	---	---	Moderate	Moderate	Moderate
703A: Pierron-----	---	---	High	High	High
Burksville-----	---	---	High	High	Low
801B: Orthents, silty-----	---	---	High	High	Moderate
801D: Orthents, silty-----	---	---	High	High	Moderate
802B: Orthents, loamy-----	---	---	Moderate	Moderate	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth		Uncoated steel	Concrete
		to top			
		In			
802D: Orthents, loamy-----	---	---	Moderate	Moderate	Moderate
864, 865. Pits					
867. Oil waste land					
878C3: Coulterville-----	---	---	High	High	High
Grantfork-----	---	---	High	High	Low
880B2: Coulterville-----	---	---	High	High	High
Darmstadt-----	---	---	High	High	High
882B: Oconee-----	---	---	High	High	High
Coulterville-----	---	---	High	High	High
Darmstadt-----	---	---	High	High	High
885A: Virden-----	---	---	High	High	Moderate
Fosterburg-----	---	---	High	High	Low
894A: Herrick-----	---	---	High	High	High
Biddle-----	---	---	High	High	Moderate
Piasa-----	---	---	High	High	Low
897D3: Bunkum-----	---	---	High	High	High
Atlas-----	---	---	High	High	Moderate
914C3: Atlas-----	---	---	High	High	Moderate
Grantfork-----	---	---	High	High	Low
914D3: Atlas-----	---	---	High	High	Moderate
Grantfork-----	---	---	High	High	Low
962D2: Sylvan-----	---	---	High	Moderate	Moderate
Bold-----	---	---	High	Low	Low
962F2: Sylvan-----	---	---	High	Moderate	Moderate
Bold-----	---	---	High	Low	Low

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
967F: Hickory-----	---	---	Moderate	Moderate	Moderate
Gosport-----	Bedrock (paralithic)	20-40	Moderate	High	High
993A: Cowden-----	---	---	High	High	Moderate
Piasa-----	---	---	High	High	Low
1070L: Beaucoup, undrained----	---	---	High	High	Low
2071L: Darwin-----	---	---	Moderate	High	Low
Aquents.					
Urban land.					
2079D: Menfro-----	---	---	High	Low	Moderate
Orthents.					
Urban land.					
2113B: Oconee-----	---	---	High	High	High
Orthents.					
Urban land.					
2122B: Colp-----	---	---	High	High	High
Orthents.					
Urban land.					
2183A: Shaffton-----	---	---	Moderate	High	High
Fluents.					
Urban land.					
2284A: Tice-----	---	---	High	High	Low
Fluents.					
Urban land.					
2304B: Landes-----	---	---	Moderate	Low	Low
Fluents.					
Urban land.					

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth		Uncoated steel	Concrete
		to top			
		In			
2384B: Edwardsville----- Orthents. Urban land.	---	---	High	High	Moderate
2477B: Winfield----- Orthents. Urban land.	---	---	High	Moderate	Moderate
2592A: Nameoki----- Fluvents. Urban land.	---	---	High	High	Moderate
2741B: Oakville----- Psamments. Urban land.	---	---	Low	Low	Moderate
3038B: Rocher-----	---	---	Moderate	Low	Low
3070A: Beaucoup-----	---	---	High	High	Low
3070L: Beaucoup-----	---	---	High	High	Low
3071L: Darwin-----	---	---	High	High	Low
3333A: Wakeland-----	---	---	High	Moderate	Low
3334A: Birds-----	---	---	High	High	Moderate
3336A: Wilbur-----	---	---	High	Moderate	Low
3415A: Orion-----	---	---	High	High	Low
3428A: Coffeen-----	---	---	High	High	Moderate
3451A: Lawson-----	---	---	High	Moderate	Low
3592A: Nameoki-----	---	---	High	High	Moderate
7037A: Worthen-----	---	---	High	Low	Low

Table 22.--Soil Features--Continued

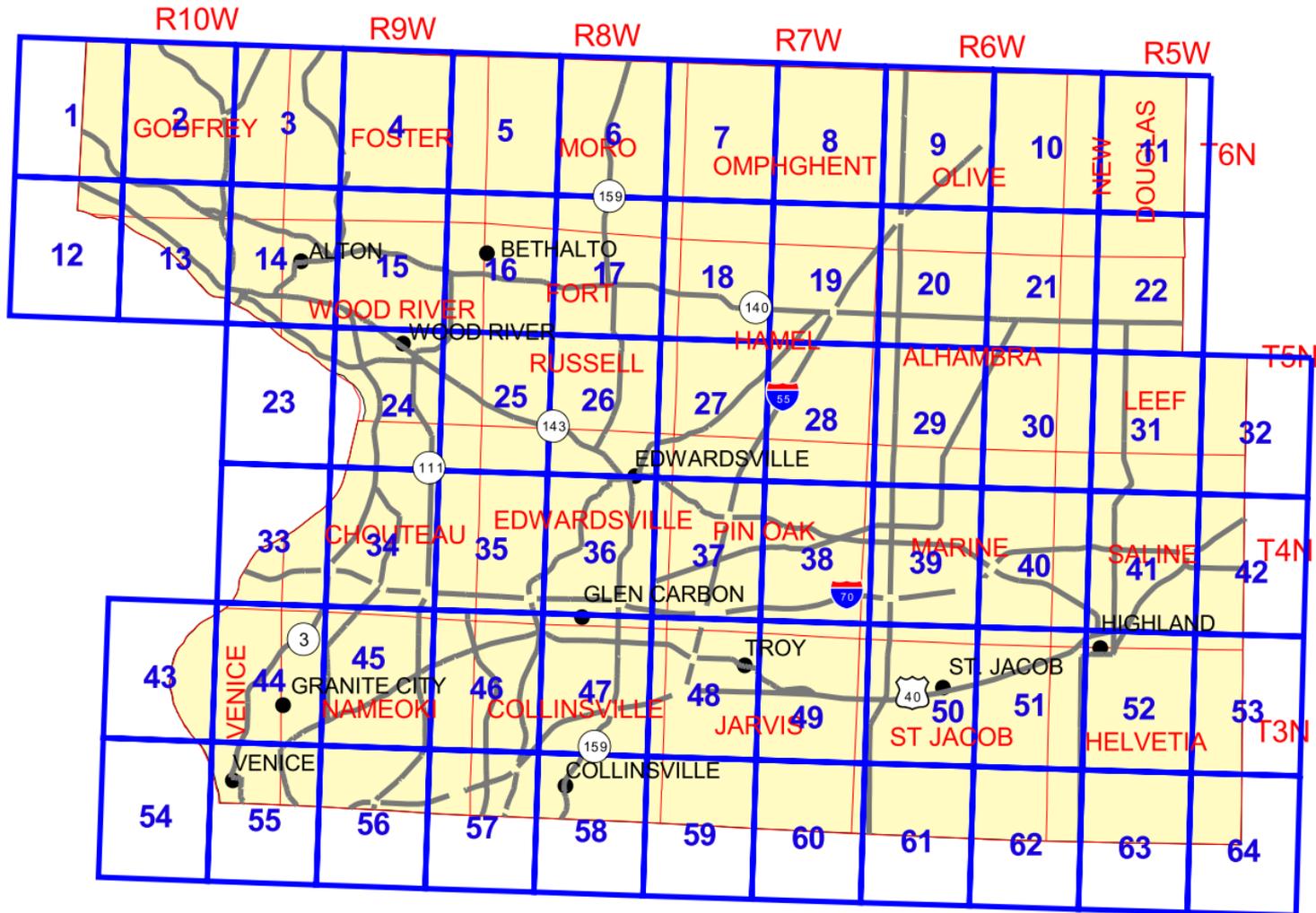
Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
7037B: Worthen-----	---	---	High	Low	Low
7053B: Bloomfield-----	---	---	Low	Low	High
7075B: Drury-----	---	---	High	Moderate	Moderate
7081A: Littleton-----	---	---	High	High	Low
7122B: Colp-----	---	---	High	High	High
7122C: Colp-----	---	---	High	High	High
7150A: Onarga-----	---	---	Moderate	Low	High
7151A: Ridgeville-----	---	---	High	Moderate	Moderate
7338A: Hurst-----	---	---	Moderate	High	High
7430A: Raddle-----	---	---	High	Moderate	Moderate
7432A: Geff-----	---	---	High	High	High
7434B: Ridgway-----	---	---	High	Moderate	Moderate
7445A: Newhaven-----	---	---	High	High	Moderate
7741B: Oakville-----	---	---	Low	Low	Moderate
7741C: Oakville-----	---	---	Low	Low	Moderate
8038B: Rocher-----	---	---	Moderate	Low	Low
8070A: Beaucoup-----	---	---	High	High	Low
8071L: Darwin-----	---	---	Moderate	High	Low
8078A: Arenzville-----	---	---	High	Moderate	Moderate
8180A: Dupo-----	---	---	High	High	Moderate
8183A: Shaffton-----	---	---	Moderate	High	High

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
8284A: Tice-----	---	---	High	High	Low
8302A: Ambraw-----	---	---	High	High	Moderate
8304B: Landes-----	---	---	Moderate	Low	Low
8331A: Haymond-----	---	---	High	Low	Low
8333A: Wakeland-----	---	---	High	Moderate	Low
8334A: Birds-----	---	---	High	High	Moderate
8415A: Orion-----	---	---	High	High	Low
8591A: Fults-----	---	---	High	High	Moderate
8592A: Nameoki-----	---	---	High	High	Moderate
8674A: Dozaville-----	---	---	High	Moderate	Moderate
8831A. Fluvaquents, clayey					

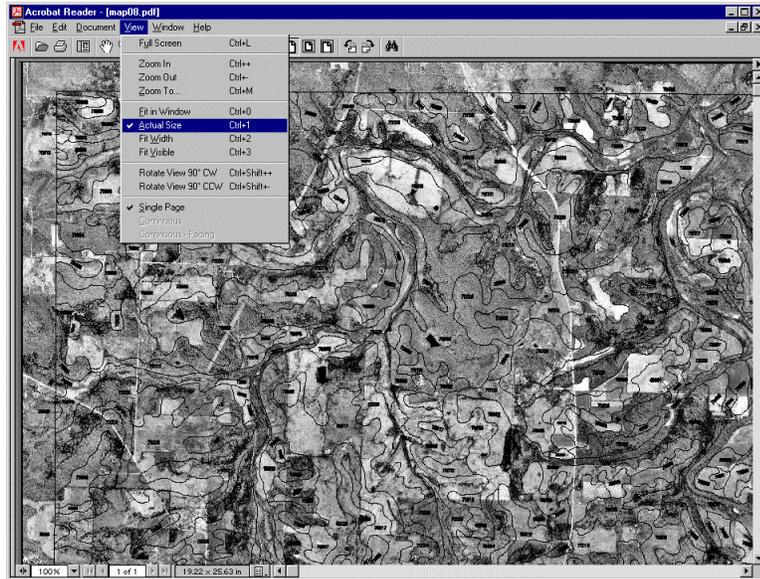
Madison County, Illinois Index to atlas sheets.

Click on a blue number
to view soil map of area



Printing Soil Survey Maps

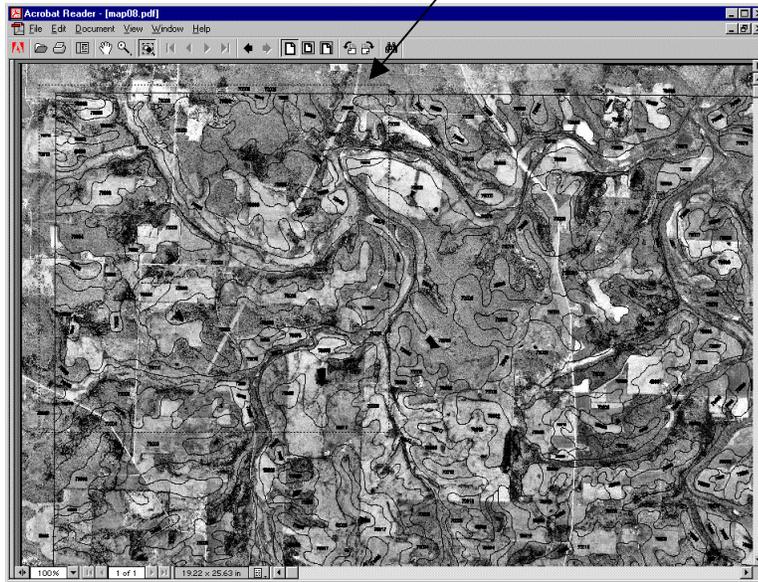
The soil survey maps were made at a scale of 1:12000 and were designed to be used at that scale. To print the maps at 1:12000 scale, set the view to Actual Size from the View pull down menu.



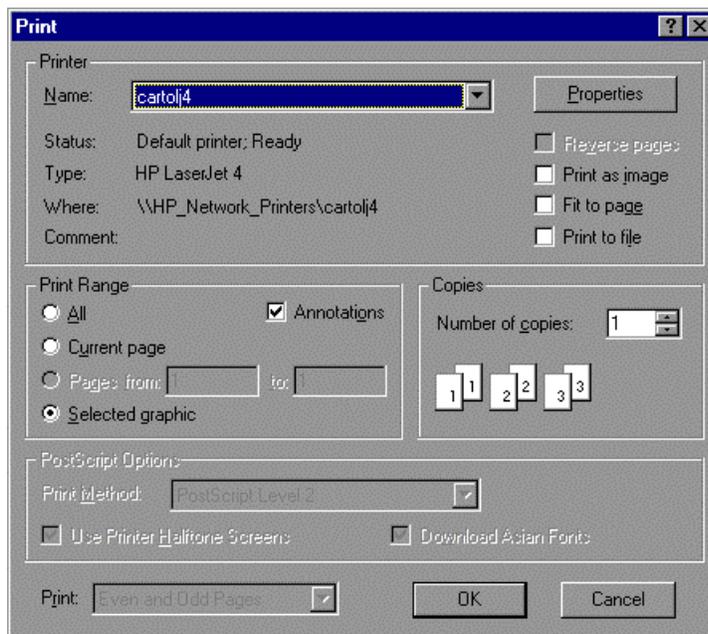
Using the pan tool, go to the area you would like to print. Select the Graphic Selection Tool by holding down the Text Selection Tool button and clicking on the Graphic Selection Tool button.



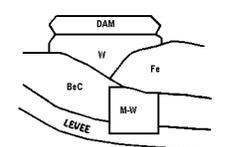
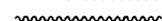
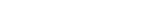
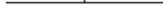
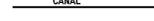
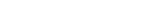
Then using the Graphic Selection Tool drag a box around the area you would like to print. Note dashed lines forming a box around area to print.



Select File Print. The Print Range will be set to Selected graphic. Click OK and the map will be sent to the printer.



CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	
CULTURAL FEATURES		CULTURAL FEATURES (cont.)		SPECIAL SYMBOLS FOR SOIL SURVEY AND SSURGO		
BOUNDARIES		MISCELLANEOUS CULTURAL FEATURES		 <p>SOIL DELINEATIONS AND SYMBOLS</p> <p>LANDFORM FEATURES</p> <p>ESCARPMENTS</p> <p>Bedrock </p> <p>Other than bedrock </p> <p>SHORT STEEP SLOPE </p> <p>GULLY </p> <p>DEPRESSION, closed </p> <p>SINKHOLE </p> <p>EXCAVATIONS</p> <p>PITS</p> <p>Borrow pit </p> <p>Gravel pit </p> <p>Mine or quarry </p> <p>LANDFILL </p> <p>MISCELLANEOUS SURFACE FEATURES</p> <p>Blowout </p> <p>Clay spot </p> <p>Gravelly spot </p> <p>Lava flow </p> <p>Marsh or swamp </p> <p>Rock outcrop (includes sandstone and shale) </p> <p>Saline spot </p> <p>Sandy spot </p> <p>Severely eroded spot </p> <p>Slide or slip </p> <p>Sodic spot </p> <p>Spoil area </p> <p>Stony spot </p> <p>Very stony spot </p> <p>Wet spot </p>		
National, state, or province		Farmland, house (omit in urban areas)				
County or parish		Church				
Minor civil division		School				
Reservation, (national forest or park, state forest or park)		Other Religion (label)				
Land grant		Located object (label)				
Limit of soil survey (label) and/or denied access areas		Tank (label)				
Field sheet matchline & neatline		Lookout Tower				
Previously published survey		Oil and / or Natural Gas Wells				
OTHER BOUNDARY (label)		Windmill				
Airport, airfield		Lighthouse				
Cemetery		HYDROGRAPHIC FEATURES				
City / county Park		STREAMS				
STATE COORDINATE TICK		Perennial, double line				
LAND DIVISION CORNERS (section and land grants)		Perennial, single line				
GEOGRAPHIC COORDINATE TICK		Intermittent				
TRANSPORTATION		Drainage end				
Divided roads		DRAINAGE AND IRRIGATION				
Other roads		Double line canal (label)				
# Trails		Perennial drainage and/or irrigation ditch				
ROAD EMBLEMS & DESIGNATIONS		Intermittent drainage and/or irrigation ditch				
Interstate		SMALL LAKES, PONDS, AND RESERVOIRS				
Federal		Perennial water				
State		Miscellaneous water				
County, farm, or ranch		Flood pool line				
RAILROAD		MISCELLANEOUS WATER FEATURES				
POWER TRANSMISSION LINE (normally not shown)		Spring				
PIPELINE (normally not shown)		Well, artesian				
FENCE (normally not shown)		Well, irrigation				
LEVEES		RECOMMENDED AD HOC SOIL SYMBOLS				
Without road		1		23		
With road		2		24		
With railroad		3		25		
Single side slope (showing actual feature location)		4		Gray spot	26 GSP	
DAMS		5		27		
Medium or small		6		28		
LANDFORM FEATURES		7		Calcareous spot	29 CSP	
Prominent Hill or Peak		8		Muck spot	30 MUC	
Soil Sample Site		9		31		
* Cultural features for use in Illinois		10		32		
		11		33		
		Dumps	12 DMP		34	
		13		Mine subsided Area	35 MSA	
		14		36		
		Oil brine spot	15 OBS		37	
		16		38		
		17		39		
		18		Glacial Till spot	40 GLA	
		19		41		
		Disturbed soil spot	20 DSS		42	
		21		43		
		22		44		

Descriptions of Special Features

Name	Description	Label
Blowout	A small saucer, cup, or trough-shaped hollow or depression formed by wind erosion, on a preexisting sand deposit. Typically 0.2 acre to 2.0 acres.	BLO
Borrow pit	An open excavation from which soil and underlying material have been removed, usually for construction purposes. Typically 0.2 acre to 2.0 acres.	BPI
Calcareous spot	An area in which the soil contains carbonates in the surface layer. The surface layer of the named soils in the surrounding map unit is non-calcareous. Typically 0.5 to 2.0 acres in size.	CSP
Clay spot	A spot where the surface layer is silty clay or clay in areas where the surface layer of the soils in the surrounding map unit is sandy loam, loam, silt loam, or coarser. Typically 0.2 acre to 2.0 acres.	CLA
Depression, closed	A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and is without a natural outlet for surface drainage. Typically 0.2 acre to 2.0 acres.	DEP
Disturbed soil spot	An area in which the soil has been removed and materials redeposited due to human activity. Typically 0.25 to 2.0 acres.	DSS
Dumps	Non-soil material that supports little or no vegetation. Typically 0.5 to 2.0 acres.	DMP
Escarpment, bedrock	A relatively continuous and steep slope or cliff, produced by erosion or faulting, that breaks the general continuity of more gently sloping land surfaces. Exposed material is hard or soft bedrock.	ESB
Escarpment, nonbedrock	A relatively continuous and steep slope or cliff, generally produced by erosion but in some places produced by faulting, that breaks the continuity of more gently sloping land surfaces. Exposed earthy material is nonsoil or very shallow soil.	ESO
Glacial till	An exposure of glacial till at the surface of the earth. Typically 0.25 to 2.0 acres.	GLA
Gravel pit	An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel. Typically 0.2 acre to 2.0 acres.	GPI
Gravelly spot	A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area with less than 15 percent rock fragments. Typically 0.2 acre to 2.0 acres.	GRA
Gully	A small channel with steep sides cut by running water through which water ordinarily runs only after a rain or after melting of ice or snow. It generally is an obstacle to wheeled vehicles and is too deep to be obliterated by ordinary tillage.	GUL
Iron bog	An accumulation of iron in the form of nodules, concretions, or soft masses on the surface or near the surface of soils. Typically 0.2 acre to 2.0 acres.	IBA
Landfill	An area of accumulated waste products of human habitation, either above or below natural ground level. Typically 0.2 acre to 2.0 acres.	LDF
Levee	An embankment that confines or controls water, especially one built along the LVS banks of a river to prevent overflow onto lowlands.	LVS

Name	Description	Label
Marsh or swamp	A water-saturated, very poorly drained area, intermittently or permanently covered by water. Sedges, cattails, and rushes are the dominant vegetation in marsh areas, and trees or shrubs are the dominant vegetation in swamps. Typically 0.2 acre to 2.0 acres.	MAR
Mine or quarry	An open excavation from which soil and underlying material have been removed and in which bedrock is exposed. Also denotes surface openings to underground mines. Typically 0.2 acre to 2.0 acres.	MPI
Mine subsided area	Areas that are lower than the soils in the surrounding map units due to subsurface coal mining. Typically 0.25 to 3 acres.	MSA
Miscellaneous water	A small, constructed water area that is used for industrial, sanitary, or mining applications and contains water most of the year. Typically 0.2 acre to 2.0 acres.	MIS
Muck spot	An area that occurs within an area of poorly drained or very poorly drained soil and that has a histic epipedon or an organic surface layer. The symbol is used only in map units consisting of mineral soil. Typically 0.2 acre to 2.0 acres.	MUC
Oil brine spot	An area of soil that has been severely damaged by the accumulation of oil brine, with or without liquid oily wastes. The area is typically barren but may have a vegetative cover of salt-tolerant plants. Typically 0.2 acre to 2.0 acres.	OBS
Perennial water	A small, natural or constructed lake, pond, or pit that contains water most of the year. Typically 0.2 acre to 2.0 acres.	WAT
Rock outcrop	An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock or where "Rock outcrop" is a named component of the map unit. Typically 0.2 acre to 2.0 acres.	ROC
Saline spot	An area where the surface layer has an electrical conductivity of 8 mmhos/cm-1 more than the surface layer of the named soils in the surrounding map unit, in which electrical conductivity is 2 mmhos/cm-1 or less. Typically 0.2 acre to 2.0 acres.	SAL
Sandy spot	A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer. Typically 0.2 acre to 2.0 acres.	SAN
Severely eroded spot	An area where, on the average, 75 percent or more of the original surface layer has been lost because of accelerated erosion. Not used in map units in which "severely eroded," "very severely eroded," or "gullied" is part of the map unit name. Typically 0.2 acre to 2.0 acres	ERO
Short, steep slope	A narrow area of soil having slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.	SLP
Sinkhole	A closed depression formed either by solution of the surficial rock or by collapse of underlying caves. Typically 0.2 acre to 2.0 acres.	SNK

Name	Description	Label
Slide or slip	A prominent landform scar or ridge caused by fairly recent mass movement or descent of earthy material resulting from failure of earth or rock under shear stress along one or several surfaces. Typically 0.2 acre to 2.0 acres	SLI
Sodic spot	An area where the surface layer has a sodium adsorption ratio that is at least 10 more than that of the surface layer of the named soils in the surrounding map unit, which have a sodium adsorption ratio of 5 or less. Typically 0.2 acre to 2.0 acres.	SOD
Spoil area	A pile of earthy materials, either smoothed or uneven, resulting from human activity. Typically 0.2 acre to 2.0 acres.	SPO
Stony spot	A spot where 0.01 to 0.1 percent of the surface cover is rock fragments that are more than 10 inches in diameter in areas where the surrounding soil has no surface stones. Typically 0.2 acre to 2.0 acres.	STN
Unclassified water	A small, natural or manmade lake, pond, or pit that contains water, of an unspecified nature, most of the year. Typically 0.2 acre to 2.0 acres.	UWT
Very stony spot	A spot where 0.1 to 3.0 percent of the surface cover is rock fragments that are more than 10 inches in diameter in areas where the surface cover of the surrounding soil is less than 0.01 percent stones. Typically 0.2 acre to 2.0 acres.	STV
Wet depression	A shallow, concave area within an area of poorly drained or very poorly drained soils in which water is ponded for intermittent periods. The concave area is saturated for appreciably longer periods of time than the surrounding soil. Typically 0.2 acre to 2.0 acres.	WDP
Wet spot	A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit. Typically 0.2 acre to 2.0 acres.	WET