United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Illinois Agricultural Experiment Station

Soil Survey of Kankakee County, Illinois

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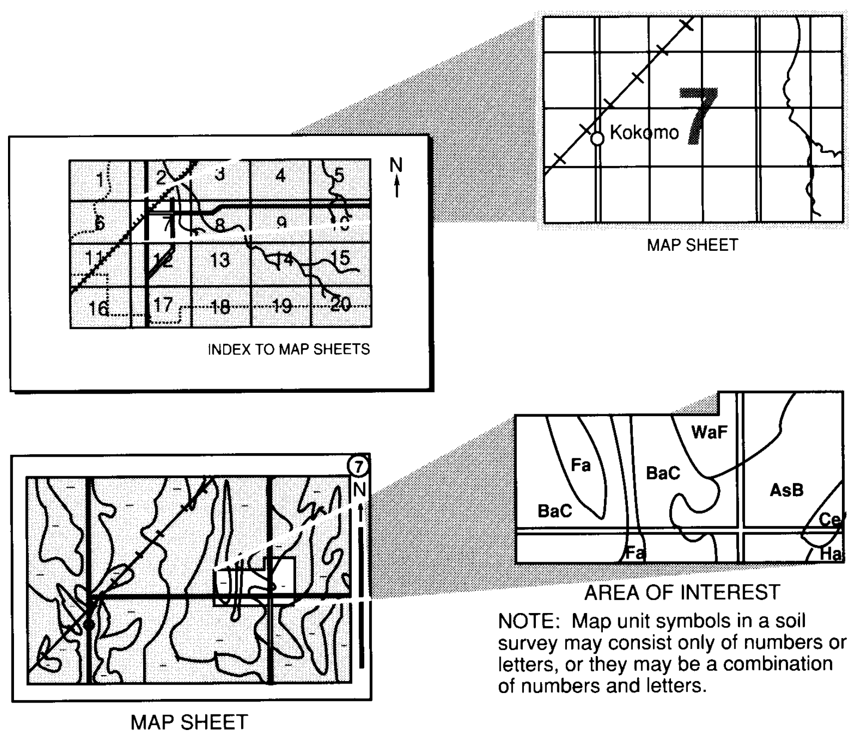
How To Use This Soil Survey

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 **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described. The map 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 detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service and the Illinois Agricultural Experiment Station. It is part of the technical assistance furnished to the Kankakee County Soil and Water Conservation District.

Major fieldwork for this soil survey was completed in 2003. Soil names and descriptions were approved in 2003. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2003. The most current official data are available on the Internet.

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

Nondiscrimination Statement

Captions for Cover Photos

Clockwise from upper left: An area of Pella silty clay loam, 0 to 2 percent slopes, on a terrace with the Kankakee River bluff and uplands in the background. The Kankakee River flowing through the city of Kankakee. Pilot Hill, in the southwestern part of the county, is one of the highest elevations in the survey area. Bedrock outcrops along the river at the Kankakee River State Park.

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

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Issued September 2005

Numerical Index to Map Units

Foreword

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

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

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

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

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

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Soil Survey of Kankakee County, Illinois

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

KANKAKEE COUNTY is in northeastern Illinois (fig. 1). It has an area of 435,925 acres, or 681 square miles. The population of the county in 2000 was 103,833 (U.S. Department of Commerce, 2000). Kankakee is the county seat and the largest city in the county. Kankakee County is bordered by Will County on the north, by Grundy and Livingston Counties on the west, and by Ford and Iroquois Counties on the south. It is bordered by Indiana on the east.

This survey area is a subset of Major Land Resource Area (MLRA) 110, the Northern Illinois and Indiana Heavy Till Plain, and MLRA 98, the Southern Michigan and Northern Indiana Drift Plain (USDA, 1981).

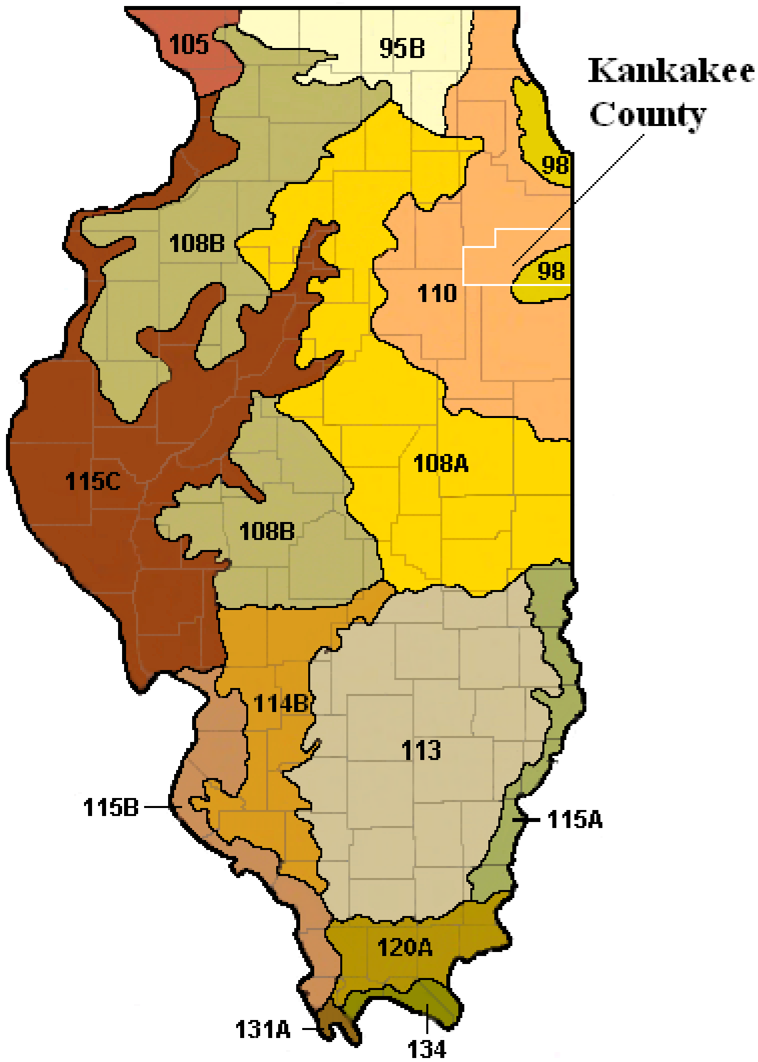
This survey updates the survey of Kankakee County published in 1979 (Paschke, 1979). The updated survey provides additional information and has larger maps, which show the soils in greater detail.

General Nature of the Survey Area

This section provides general information about the survey area. It describes history; physiography, relief, and drainage; natural resources; agriculture; transportation facilities; industry; and climate.

History

The survey area was considered a beautiful place to live by the Native American peoples long before European settlers arrived. Although European traders were in Kankakee County before 1832, the first permanent settler was William Baker, who settled at Chobar's Ford at Kankakee River in Aroma Park. In the 1830s and 1840s,



LEGEND

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

Figure 1.—Location of Kankakee County and major land resource areas (MLRAs) in Illinois.

families from Quebec's upper St. Lawrence Valley settled near Bourbonnais and became the largest 19th-century population of French Canadians in the State. They founded several communities in the county and were very influential.

By an act of Congress in 1800, the Northern Territory was divided into two parts—the Ohio and Indiana Territories. The Indiana Territory consisted of the present states of Indiana, Illinois, Michigan, and Wisconsin. In 1809, the territory of Illinois was organized to include Wisconsin and the Michigan peninsula. Illinois, with its present boundaries, was admitted into the Union as the 21st State in December of 1818. Kankakee County was formed in February 1853 from parts of Will and Iroquois Counties. Kankakee was selected as the county seat in June of that year.

Physiography, Relief, and Drainage

Kankakee County is in the Central Lowland province (Leighton and others, 1948). The majority of the county is made up of the Kankakee Plain of the Till Plains section. The northeastern part of the county is in the Wheaton Morainal Country of the Great Lakes section, and the southwestern part is in the Bloomington Ridged Plain of the Till Plains section.

About 94 percent of the county is nearly level to gently sloping. The rest is rolling to steep and is in morainal areas or on the prominent sandhills. The highest elevation, about 740 feet above sea level, is in the northeastern part of the county. The lowest elevation, about 550 feet, is at the point where the Kankakee River leaves the county at the Will County line (fig. 2).

Several moraines run through the county. From east to west, they are the West Chicago Moraine, the Manhattan Moraine, the Rockdale Moraine, the St. Anne Moraine, and the Marseilles Morainic System (Hansel and Johnson, 1996).

The underlying bedrock in the survey area has been greatly modified by glaciation. The depth to bedrock ranges from 0 to 100 feet. Limestone outcrops are common in the Kankakee River Valley and in the adjacent glacial torrent area. The torrent area was created when a huge torrential river fed by glacial meltwater removed the soil material covering the bedrock and piled chunks of loose limestone into island-like areas of rubble.

Most of Kankakee County is drained by the Kankakee River and its tributaries. A small area, along the western side of the county, is drained by the Mazon River.

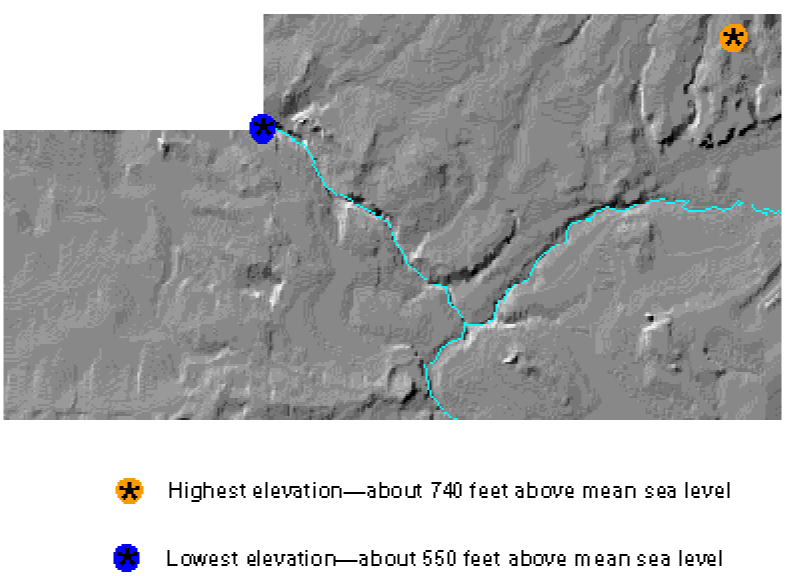


Figure 2.—A generalized relief map of Kankakee County, Illinois.

Hundreds of miles of open drainage ditches have been constructed to bring large acreages of the county under cultivation.

Natural Resources

Kankakee County has a variety of natural resources, ranging from construction materials to surface- and ground-water deposits.

Dolomite quarried in Kankakee County is used in such applications as concrete manufacture and agricultural limestone. Sand and gravel pits provide materials for construction applications. Little use is made of clay materials at present. Peat and muck occur in limited quantities.

Both surface water and underground water are relatively abundant in the county. The Kankakee and Iroquois Rivers are continuously flowing streams. The depth of wells generally ranges from shallow (20 feet or less) to deep (more than 200 feet). The deepest wells, those that penetrate water-bearing rock strata, are 1,000 feet deep or more.

Agriculture

Like much of Illinois, Kankakee County has some very fertile farmland. Agriculture has been the dominant land use for decades. In 2002, about 80 percent of the land in the county was used for agriculture (U.S. Department of Commerce, 2002).

The market value of agricultural products sold in 2002 exceeded $119 million, and more than 37 percent of the county's farms generated annual sales of $100,000 or more. Corn, soybeans, small grain crops, and nursery and greenhouse crops (fig. 3) accounted for about 92 percent of the market value of agricultural products sold in 2002, and livestock, poultry, and related products accounted for the remaining 8 percent. Corn was grown on 167,858 acres, soybeans on 143,260 acres, wheat on 3,755 acres, and hay on 3,309 acres. In 2002, the number of livestock in Kankakee County totaled 4,342 head of cattle, 18,168 hogs, and 320 head of sheep.

While the market value of farm products has been increasing, the number of farms and the number of acres farmed have been declining. In 1969, the county had 1,500 farms totaling 391,500 acres. In 2002, there were 722 farms totaling 347,161 acres. These statistics represent decreases of 52 percent in the number of farms and 11 percent in the number of acres farmed. This decline, however, has been counteracted by a large increase in average farm size. In 1969, the 1,500 farms averaged 261 acres in size; in 2002, the 722 farms averaged 481 acres in size—an increase in farm size of 84 percent (U.S. Department of Commerce, 2002).

Transportation Facilities

Kankakee County has a well developed system of roads. The county is served by Illinois State Highways 1, 17, 50, 102, 113, 114, and 115; U.S. Highways 45 through 52; and Interstate 57, which runs through the center in a north-south direction. County and township roads, mostly hard-surfaced or graveled, serve all sections of the county.

Kankakee County owes much of its start and early growth to the Illinois Central Railroad, which was built in 1853. Four main-line railroads and four branch lines serve the county. These railroad lines were instrumental in the industrial development of the county.

A commercial airport south of Kankakee serves the area. Also, the county is relatively close to Midway and O'Hare International Airports in Chicago. Several private airports serve the county and are adequate for the smaller aircraft used in business and recreation.

Figure 3.—Specialty crops, such as green beans and onions, are intensively managed and are an increasing source of income as a result of the county's close proximity to markets in the Chicago metropolitan area.

Industry

Kankakee County has a strong traditional economic base that includes manufacturing, health care, retail sales, construction, education, and administrative jobs. Housing construction is very important in many parts of the county. Sand, gravel, and limestone are mined for concrete work and other purposes.

As the overall economy has changed, so have the jobs in Kankakee County. Service businesses now provide many of the jobs. Because of added industries and increased diversification, industrial growth has increased (fig. 4). Service type jobs account for about 34,000 jobs, and manufacturing accounts for about 8,000 jobs (Kankakee Daily Journal, 2003).

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Kankakee in the period 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season.

In winter, the average temperature is 25.6 degrees F and the average daily minimum temperature is 16.8 degrees. The lowest temperature on record, which occurred at Kankakee on January 20, 1985, is -29 degrees. In summer, the average temperature is 72.4 degrees and the average daily maximum temperature is 83.8 degrees. The highest temperature, which occurred at Kankakee on August 17, 1988, is 107 degrees.

Figure 4.—Industrial and transportation facilities help to provide jobs in the county.

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

The average annual total precipitation is 38.57 inches. Of this total, about 23.67 inches, or about 61 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 5.35 inches at Kankakee on June 26, 1978. Thunderstorms occur on about 38 days each year, and most occur between April and September.

The average seasonal snowfall is 26.1 inches. The greatest snow depth on record is 30 inches recorded on February 12, 1979. On the average, 41 days per year have at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 13 inches on January 13, 1979.

How This Survey Was Made

Soil surveys are updated as part of maintenance projects that are conducted for a major land resource area (MLRA) or other region. Maintaining and coordinating soil survey information within a broad area result in uniformly delineated and joined soil maps and in coordinated interpretations and map unit descriptions for areas that have similar physiography, climate, and land use.

Updated soil survey information is coordinated within the major land resource area or other region and meets the standards established and defined in the memorandum of understanding. Soil surveys that are consistent and uniform within a broad area enable the coordination of soil management recommendations and a uniform program application of soil information.

The current survey was made to provide updated information about the soils and miscellaneous areas in Kankakee County, which is a subset of MLRAs 98 and 110 (fig. 1). Major land resource areas are geographically associated land resource units that share a common land use, elevation, topography, climate, water, soils, and vegetation (USDA, 1981). Map unit design and the detailed soil descriptions are based on the occurrence of each soil throughout the MLRA.

The information in this survey includes a description of the soils and miscellaneous areas and their location and a discussion of their properties and the subsequent effects on suitability, limitations, and management for specified uses.

Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

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

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries. After soil scientists located and identified the significant natural bodies of soil in the survey area, they then drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit.

Fieldwork in the Kankakee County soil survey update 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 also 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. Interpretations are modified as necessary 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 water table within certain depths in most years, but they cannot predict that the water table will always be at a specific level in the soil on a specific date.

The soil maps from the 1979 published survey were digitized, and this digital product provided the source material for the current update survey. Starting in 2002, the soil vector lines were adjusted on the computer by soil scientists. U.S. Geological Survey digital aerial black and white orthophotographs taken in 1998-99 were used as base maps. Soil scientists studied the orthophotographs and U.S. Geological Survey topographic maps to relate land and image features. Adjustments of soil boundary lines on the digital soil maps were made to coincide with the tonal patterns on the orthophotographs and topographic map contour lines. The orthophotographs also show trees, buildings, fields, roads, lakes, and rivers, all of which help in locating soil boundaries accurately.

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

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 system of soil classification.

Formation of the Soils

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

Factors of Soil Formation

The major 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 the processes of soil formation have acted on the parent material (Jenny, 1941). Climate and plants and animals 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 depressions 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.

Parent Material

Parent material is the unconsolidated geologic material in which a soil forms. The soils of Kankakee County were derived from parent materials that were directly or indirectly impacted by the Wisconsin glaciation of the Pleistocene deposits. The parent materials in Kankakee County include till; loess, or silty material; outwash; lacustrine material; organic deposits; and alluvium.

Parent materials were distributed by the action of ice, water, and wind. During the glacial epoch, several glaciers advanced across the region now occupied by Kankakee County. These glaciers not only removed old soils, but they also deposited large amounts of freshly ground-up rock materials, in which the present-day soils formed.

The glacial flooding event that affected Kankakee County the most was the Kankakee Torrent. The Kankakee Torrent was a gigantic glacial flood, which resulted from the rapid melting of three glaciers that were concentrated in southern Michigan. The meltwater then cut across northwestern Indiana and through Will and Kankakee Counties. At its highest stage, this flood of glacial meltwater overflowed the Kankakee Valley and created huge glacial lakes (Lake Wauponsee, Lake Watseka, Lake Ottawa, and Lake Pontiac) that covered most of Iroquois County to the south, most of Grundy County, the southern part of Kendall County, and the western part of Will County (Frankie, 1998).

Bedrock outcrops are common along the Kankakee River. Outcrops are visible in areas on bottom land and along some of the bluffs. Faxon and Rockton soils are moderately deep to bedrock.

Till is unsorted ice-deposited sediment composed of a matrix of silt, clay, and sand, in which pebbles, cobbles, and boulders are embedded. The till in Kankakee County is made up mostly of the Yorkville Member of the Lemont Formation of the Wedron Group (Hansel and Johnson, 1996). It is dark gray or gray silty clay or silty clay loam that oxidizes to olive brown. The youngest till, the Wadsworth Formation of the Wedron Group, is in the northeastern part of the county. It is a fine textured, calcareous till. In its unaltered state, it is gray; when oxidized, it ranges from yellow to olive brown.

The till in Kankakee County can be divided into two general groups according to the proportions of gravel, sand, silt, and clay. Differences in these proportions are reflected in the texture and permeability of the tills, which, in turn, have influenced and continue to influence soil development. Beecher and Markham soils developed in silty clay loam till, which is slowly permeable to air and water. Plant roots do not readily penetrate more than a few inches into the unleached till. In silty clay tills, permeability is very slow, and plant roots seldom penetrate the unleached till except in cracks or along cleavage faces. Bryce and Mokena soils formed in silty clay till.

Outwash materials were deposited by water flowing at different rates down streams, across outwash plains, or into lakes. The variation in water flow resulted in strata of different textures and thickness. Outwash materials thus range from coarse, nearly clean gravel to very fine, nearly pure clay. Typically, however, they are mixtures of two or more particle sizes. In Kankakee County the outwash soils have four main textures: sand and loamy sand, represented by Watseka and Oakville soils; fine sandy loam, represented by Gilford soils; loam and silt loam, represented by Jasper and Darroch soils; and cobbly fine sandy loam, represented by Bonfield and Kankakee soils.

Lacustrine material was deposited in the relatively still water of glacial lakes. After the coarser fragments were deposited as outwash by moving water, the finer particles, such as very fine sand, silt, and clay, settled in still water. Vertical variation is greater than horizontal variation. The layers are commonly thicker than those in outwash. The fine textured Martinton and Milford soils are on glacial lake plains.

Loess, which is silty, wind-deposited glacial parent material, is not distinguishable or is confined to the surface layer of till soils. It consists mainly of silt and a little clay. It originated from areas barren of vegetation and exposed to wind currents that could separate the fine particles from the coarser fragments. These areas were commonly large areas of bottom land and valley trains of glacial rivers. Although some loess was undoubtedly deposited before the later glacier movements, only that deposited on top of the last or uppermost till and outwash is important to the modern soils. Because loess is present as the surface material, it is responsible for the silt loam and silty clay loam textures in the surface layer of more than half of the soil types in Kankakee County.

Organic deposits consist of decomposed plant remnants. After the glaciers receded, water was left standing in depressional areas. As a result, these areas were very wet during soil formation, and the decaying plant material accumulated more quickly than it decomposed. Most of these plant remains are so decomposed that they are unrecognizable. These organic deposits are called sapric material. Adrian and Lena soils are examples of soils that formed in these deposits.

Alluvium is sand, silt, or clay that has been deposited on flood plains or on bottom land by flooding streams and rivers. Ambraw and Sawmill soils are examples of alluvial soils in Kankakee County.

Climate

Kankakee County has a temperate, humid continental climate. The general climate generally has had an important overall influence on the characteristics of the soils. The climate in the county has generally favored swamp and marsh grasses, prairie grasses, and hardwood forests. The climate is essentially uniform throughout the county, however, and has not caused any major differences among the soils.

Climate is important in soil development because it largely determines the type of weathering that takes place. Most years, this region has enough rainfall and melted snowfall to moisten all of the soil and underlying materials to the level of bedrock or a permanent water table. The degree of saturation is variable, depending on thickness and permeability of unconsolidated materials, their water-holding capacity, and topography.

In general, rainfall either percolates downward to underground outlets, evaporates, is transpired by plants, or moves across the land surface to streams, carrying with it material in solution and suspension. Salts of calcium, magnesium, potassium, and other bases as well as various organic and inorganic colloids are formed. Some accumulate where formed; some are carried away in drainage waters; some are moved to other parts of the soil to help form soil horizons; and some, in the form of nutrient ions, are taken up by plants. The latter tend to be returned to the local soil area unless removed by animals or humans.

Freezing and thawing help to break down rock fragments to smaller and smaller particles, and the action of sun and wind influences many phases of plant and animal life.

Living Organisms

Living organisms, including all associated plant and animal life, were responsible for the accumulation of organic matter. Three major kinds of vegetation were present when the area was settled and were presumably also present for a long time before that. They are swamp and marsh grass, tall-grass prairie, and deciduous forest. All three types of vegetation produced large amounts of organic material. However, forest debris accumulated primarily on the soil surface, where most of it decayed rapidly or was burned or eroded away. A relatively small amount was carried by soil organisms into the upper 1 to 5 inches of mineral soil, where it was partially preserved. On the other hand, the organic matter that accumulated from the decaying fibrous root systems of prairie, swamp, and marsh grasses was within the mineral soil and was well preserved.

In the virgin or uncultivated state, soils that developed under the grass types of vegetation have a dark surface layer resulting from an accumulation of organic matter. Prairie soils, however, have a much thicker dark layer than that in soils that formed under other grasses, typically ranging between 10 and 15 inches thick. Examples of soils that formed under prairie grasses are Varna and Elliott soils. Soils that formed under forest vegetation generally have a surface layer that is 1 to 5 inches thick. Ozaukee soils are examples. In areas where grasses and forest vegetation were combined or where forest was encroaching on prairie, the soils have a surface layer that is 5 to 10 inches thick. Examples of soils that formed in these transitional areas are Markham and Beecher soils. Mucky soils commonly have an accumulation of organic material several feet deep.

Bacteria, fungi, and other micro-organisms help to break down the organic material and thus provide nutrients for plants and other soil organisms. The stability of soil aggregates, which are structure units made up of sand, silt, and clay, is affected by microbial activity because cellular excretions from these organisms help to bind soil particles together. Stable aggregates help to maintain soil porosity and promote favorable relationships among soil, water, and air. Moreover, earthworms, crayfish, insects, and burrowing animals tend to incorporate organic material into the soil and to keep soils open and porous.

Human activities also are important factors in soil formation and development in Kankakee County. By cultivating slopes, the farmers left the soils vulnerable to erosion and deposition. Other alterations resulting from human activities include the drainage of wet soils and the irrigation of dry soils. Crushed limestone has been applied in areas where the soils are acid, and fertilizer and lime have been applied in areas where plant nutrients were depleted. Urban and industrial expansion over the past several decades also has resulted in a significant amount of land being drained, cleared, excavated, and filled. These practices have had a pronounced effect on past soil formation and on present and future soil development.

Topography

Relief, which includes elevation, topography, and water table levels, largely determines the natural drainage of soils. In Kankakee County the slopes range from 0 to 40 percent. Natural soil drainage ranges from excessively drained on the backslopes and summits to very poorly drained in depressions.

Relief affects the depth to the seasonal high water table or natural drainage of the soil by influencing infiltration and runoff rates. The poorly drained Reddick and Ashkum soils occur in low, nearly level areas and have a water table close to the surface for most of the year. The soil pores contain water, which restricts the circulation of air in the soil. Under these conditions, iron and manganese compounds are chemically reduced. As a result, the subsoil is dull gray and mottled. In the more sloping, well drained Jasper and Onarga soils, the water table is lower and some of the rainfall runs off the surface. The iron and manganese compounds are well oxidized. As a result, the subsoil has brown colors. Between these extremes, or in areas where the water table fluctuates slowly into and out of the soil profile, the compounds are moderately well oxidized to imperfectly oxidized and result in mixed or mottled colors.

Local relief also influences the severity of erosion. Even though some erosion occurs on all sloping soils, the hazard of erosion generally is more severe as the slope increases. The runoff and the removal of soil material on these slopes result in the formation of soils that have a relatively thin solum.

Time

Time is an important factor in soil formation. The longer a soil is exposed to weathering processes, the more distinctive are the horizons in the profile. Soil weathering and development cannot always be measured directly in years, however, because other factors determine the degree to which a profile develops within a given time. Because unconsolidated materials weather faster than solid bedrock, a soil that formed in unconsolidated materials will reach a certain stage of development sooner than a soil that formed in bedrock. The profile of each soil, however, becomes more strongly weathered and more distinctly developed with the passing of time.

Most of the soils in Kankakee County began formation with the retreat of the last glacier about 12,500 years ago. On flood plains, however, material is deposited during each flood. This continual deposition slows development.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2003). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 4 shows the classification of the soils in 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*, meaning within, 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 taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic 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 class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, superactive, mesic Typic 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 Dunham series is a soil series in this survey area.

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, 2003). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

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

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

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

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

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

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Elliott silty clay loam, 2 to 4 percent slopes, eroded, is a phase of the Elliott series.

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

Table 5 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.

Ade Series

Drainage class: Somewhat excessively drained
Permeability: Rapid
Landform: Outwash plains and stream terraces
Parent material: Eolian deposits and/or outwash
Slope range: 1 to 6 percent
Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Lamellic Argiudolls

Typical Pedon

Ade loamy fine sand, 1 to 6 percent slopes; at an elevation of 568 feet; 1,254 feet north and 87 feet east of the southwest corner of sec. 10, T. 32 N., R. 8 E.; Grundy County, Illinois; USGS Coal City topographic quadrangle; lat. 41 degrees 15 minutes 43 seconds N. and long. 88 degrees 18 minutes 10 seconds W., NAD 27:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) loamy fine sand, grayish brown (10YR 5/2) dry; weak medium granular structure; very friable; many fine roots; slightly acid; gradual smooth boundary.

A—8 to 16 inches; very dark grayish brown (10YR 3/2) loamy fine sand, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure; very friable; many fine roots; moderately acid; clear smooth boundary.

AB—16 to 22 inches; dark brown (10YR 3/3) loamy fine sand, brown (10YR 5/3) dry; weak medium subangular blocky structure; very friable; common fine roots; moderately acid; clear smooth boundary.

Bw—22 to 29 inches; yellowish brown (10YR 5/4) fine sand; single grain; loose; few fine roots; moderately acid; gradual smooth boundary.

E and Bt—29 to 60 inches; yellowish brown (10YR 5/4) and brown (10YR 5/3) fine sand (E); single grain; loose; lamellae of brown (7.5YR 4/4) fine sandy loam 1/2 inch to 8 inches thick (Bt); weak medium subangular blocky structure; friable; many fine distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; slightly acid; gradual wavy boundary.

C1—60 to 73 inches; pale brown (10YR 6/3) fine sand; single grain; loose; neutral; clear wavy boundary.
C2—73 to 80 inches; pale brown (10YR 6/3) and brownish yellow (10YR 6/6) fine sand; single grain; loose; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 23 inches
Depth to lamellae: 30 to 45 inches
Thickness of the solum: 54 to 77 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—loamy fine sand, loamy sand, or fine sand

Bw horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 to 6
Texture—loamy fine sand

E and Bt horizon:
Hue—10YR in the E part; 10YR or 7.5YR in the Bt part
Value—4 to 6 in the E part; 3 or 4 in the Bt part
Chroma—3 to 6 in the E part; 3 or 4 in the Bt part
Texture—sand or fine sand in the E part; loamy sand, sandy loam, or loam in the Bt part

C horizon:
Hue—10YR
Value—5 or 6
Chroma—3 to 6
Texture—fine sand

98B—Ade loamy fine sand, 1 to 6 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Backslopes and summits

Map Unit Composition

Ade and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have less clay and more sand in the lower part
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have gravel in the lower part
- Soils that have slopes of less than 1 percent or more than 6 percent

Dissimilar soils:
- The somewhat poorly drained Watseka soils on footslopes and summits
- The poorly drained Gilford soils on toeslopes

Properties and Qualities of the Ade Soil

Parent material: Eolian deposits and/or outwash
Drainage class: Somewhat excessively drained
Slowest permeability within a depth of 40 inches: Rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Low
Corrosivity: Low for steel and high for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 3s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Adrian Series

Drainage class: Very poorly drained
Permeability: Moderately slow in the upper part of the profile, rapid in the lower part
Landform: Outwash plains and depressions
Parent material: Herbaceous organic material over sandy outwash
Slope range: 0 to 2 percent
Taxonomic classification: Sandy or sandy-skeletal, mixed, euic, mesic Terric Haplosaprists

Typical Pedon

Adrian muck, 0 to 2 percent slopes; at an elevation of 608 feet; 1,180 feet north and 340 feet east of the southwest corner of sec. 1, T. 31 N., R. 10 E.; Kankakee County, Illinois; USGS Bonfield topographic quadrangle; lat. 41 degrees 11 minutes 38 seconds N. and long. 88 degrees 01 minute 47 seconds W., NAD 27:

Oap—0 to 7 inches; black (N 2.5/0) (broken face and rubbed) muck (sapric material); 5 percent fiber, 1 percent rubbed; weak fine and medium granular structure; very friable; many very fine roots; few sand grains throughout; neutral; clear smooth boundary.

Oa1—7 to 12 inches; black (N 2.5/0) (broken face and rubbed) muck (sapric material); 5 percent fiber, 1 percent rubbed; weak medium granular structure; very friable; many very fine roots; few sand grains throughout; neutral; clear smooth boundary.

Oa2—12 to 22 inches; black (N 2.5/0) (broken face and rubbed) muck (sapric material); 5 percent fiber, 1 percent rubbed; weak medium and coarse subangular blocky structure; very friable; common very fine roots; few sand grains throughout; neutral; clear wavy boundary.

Oa3—22 to 40 inches; 70 percent black (10YR 2/1) (broken face and rubbed) muck (sapric material) and 30 percent light olive brown (2.5Y 5/3) loamy sand; 20 percent fiber, 2 percent rubbed; massive; very friable; common very fine roots; a 2-inch band of olive brown (2.5Y 4/3) coprogenous material at a depth of 38 inches; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear wavy boundary.

Cg—40 to 60 inches; 80 percent light brownish gray (2.5Y 6/2) and 20 percent light olive brown (2.5Y 5/3) loamy sand; single grain; loose; many medium and coarse prominent yellowish brown (10YR 5/6) and strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; violently effervescent; slightly alkaline.

Range in Characteristics

Thickness of the organic material: 16 to 51 inches

Surface tier:
Hue—10YR or neutral
Value—2 to 3
Chroma—0 to 2

Subsurface tier:
Hue—10YR, 7.5YR, or neutral
Value—2 to 3
Chroma—0 to 3

Cg horizon:
Hue—10YR to 5Y or neutral
Value—2 to 6
Chroma—0 to 3
Texture—sand, fine sand, coarse sand, or loamy sand
Content of gravel—less than 7 percent

777A—Adrian muck, 0 to 2 percent slopes

Setting

Landform: Depressions and outwash plains
Position on the landform: Toeslopes

Map Unit Composition

Adrian and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have organic deposits that are less than 16 inches or more than 51 inches thick
- Soils that have carbonates in the upper one-third of the profile
- Soils that have a surface layer that contains less organic matter

Dissimilar soils:
- The poorly drained Gilford soils on toeslopes
- The poorly drained Granby soils on toeslopes

Properties and Qualities of the Adrian Soil

Parent material: Herbaceous organic material over sandy outwash
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 17.4 inches to a depth of 60 inches

Content of organic matter in the surface layer: 70.0 to 99.0 percent
Shrink-swell potential: Low
Upper limit of apparent seasonal high water table (depth, months): At the surface, November through June
Deepest ponding (depth, months): 1.0 foot, November through June
Flooding: None
Accelerated erosion: None
Potential for frost action: High
Corrosivity: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 3w
Prime farmland status: Not prime farmland
Hydric soil status: Hydric

Alvin Series

Drainage class: Well drained
Permeability: Moderately rapid
Landform: Outwash plains and stream terraces
Parent material: Eolian deposits and/or outwash
Slope range: 2 to 5 percent
Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Alvin fine sandy loam, 2 to 5 percent slopes; at an elevation of 660 feet; 2,320 feet south and 1,760 feet east of the northwest corner of sec. 32, T. 21 N., R. 11 W.; Vermilion County, Illinois; USGS Danville NE topographic quadrangle; lat. 40 degrees 14 minutes 08 seconds N. and long. 87 degrees 36 minutes 58 seconds W., NAD 27:

Ap—0 to 8 inches; brown (10YR 4/3) fine sandy loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; very friable; moderately acid; abrupt smooth boundary.
BE—8 to 11 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine subangular blocky structure; very friable; few distinct grayish brown (10YR 5/2) silt coatings on faces of peds; moderately acid; clear smooth boundary.
Bt1—11 to 15 inches; dark yellowish brown (10YR 4/4) fine sandy loam; moderate fine subangular blocky structure; friable; few distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
Bt2—15 to 25 inches; dark yellowish brown (10YR 4/4) fine sandy loam; moderate medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; strongly acid; clear smooth boundary.
E and Bt—25 to 74 inches; yellowish brown (10YR 5/4) loamy fine sand (E); weak medium subangular blocky structure; very friable; 3 to 10 percent of volume occurring as common or many thin lamellae of dark yellowish brown (10YR 4/6) fine sandy loam (Bt); moderate medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; strongly acid; clear smooth boundary.
C—74 to 80 inches; 80 percent brown (10YR 4/3) and 20 percent yellowish brown (10YR 5/6), stratified fine sandy loam; massive; friable; moderately acid.

Range in Characteristics

Thickness of the solum: More than 40 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—1 to 4
Texture—fine sandy loam

E, EB, or BE horizon (if it occurs):
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—2 to 4
Texture—very fine sandy loam, fine sandy loam, sandy loam, or loamy fine sand

Bt horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—very fine sandy loam, loam, fine sandy loam, or sandy loam

E and Bt horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—2 to 6 in the E part; 3 to 6 in the Bt part
Texture—sandy loam, loamy sand, sand, or the fine or very fine analogs of those textures in the E part; sandy loam, loamy sand, the fine or very fine analogs of those textures, or loam in the Bt part

BC or C horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Texture—sandy loam, loamy sand, sand, or the fine or very fine analogs of those textures

131B—Alvin fine sandy loam, 2 to 5 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Summits and backslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have more gravel in the lower part
- Soils that have a thicker, darker surface layer
- Soils that have more clay and less sand in the upper part

Dissimilar soils:
- The somewhat poorly drained Beardstown soils on summits and footslopes
- The poorly drained Selma soils on toeslopes

Properties and Qualities of the Alvin Soil

Parent material: Eolian deposits and/or outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Accelerated erosion: Slight
Corrosivity: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Ambraw Series

Drainage class: Poorly drained
Permeability: Moderate
Landform: Flood plains
Parent material: Alluvium
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Fluvaquentic Endoaquolls

Typical Pedon

Ambraw sandy loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 628 feet; 1,025 feet north and 250 feet west of the southeast corner of sec. 18, T. 31 N., R. 15 E.; Kankakee County, Illinois; USGS Illiana Heights topographic quadrangle; lat. 41 degrees 10 minutes 07 seconds N. and long. 87 degrees 31 minutes 40 seconds W., NAD 27:

Ap—0 to 6 inches; black (10YR 2/1) sandy loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; many very fine and fine roots; neutral; gradual wavy boundary.

AB—6 to 11 inches; 80 percent black (10YR 2/1) and 20 percent dark grayish brown (2.5Y 4/2) sandy loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to weak fine granular; common very fine roots; many fine dark reddish brown (5YR 3/4) iron oxide concretions throughout; neutral; clear smooth boundary.

Bg1—11 to 18 inches; dark grayish brown (2.5Y 4/2) loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; common fine dark reddish brown (5YR 3/4) iron oxide concretions throughout; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.

Bg2—18 to 24 inches; dark grayish brown (2.5Y 4/2) clay loam; moderate medium subangular blocky structure; friable; few very fine roots; few prominent very dark gray (10YR 3/1) organic coatings on faces of peds and in pores; common medium strong brown (7.5YR 5/6) iron oxide concretions throughout; common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.

Bg3—24 to 35 inches; dark gray (10YR 4/1) clay loam; moderate medium and coarse subangular blocky structure; few very fine roots; few prominent very dark gray (10YR 3/1) organic coatings on faces of peds and in pores; many medium prominent strong brown (7.5YR 5/8) and common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; 1 percent gravel; neutral; gradual wavy boundary.

BCg—35 to 44 inches; gray (10YR 5/1) clay loam; weak medium and coarse subangular blocky structure; friable; few very fine roots; many medium and coarse prominent yellowish brown (10YR 5/8) and many medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.

Cg1—44 to 52 inches; gray (10YR 5/1), stratified clay loam, loam, and sandy clay loam; massive; friable; few very fine roots; common medium and coarse prominent yellowish brown (10YR 5/8) and common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.

Cg2—52 to 70 inches; gray (10YR 5/1) loamy sand; single grain; loose; common medium and coarse prominent yellowish brown (10YR 5/6 and 5/8) and common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; 1 percent gravel; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to carbonates: More than 50 inches
Thickness of the solum: 40 to 60 inches

Ap or A horizon:
Hue—10YR
Value—2 to 3
Chroma—1 or 2
Texture—sandy loam or loam

Bg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—3 to 6
Chroma—1 or 2
Texture—clay loam, loam, or sandy clay loam

BCg or Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—1 or 2
Texture—clay loam, sandy clay loam, loam, sandy loam, or loamy sand
Content of gravel—less than 7 percent

3302A—Ambraw sandy loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have more gravel in the lower part
- Soils that have less sand and more silt
- Soils that have more sand and less clay
- Soils that are overlain by recent light-colored deposits
- Soils that have a thinner surface layer

Dissimilar soils:
- The poorly drained, calcareous Millington soils on flood plains

Properties and Qualities of the Ambraw Soil

Parent material: Alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Frequency and most likely period of flooding: Frequent, November through June
Months when flooding does not occur: July through October
Accelerated erosion: None
Potential for frost action: High
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 3w
Prime farmland status: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

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

Setting

Landform: Flood plains

Map Unit Composition

Ambraw and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have more gravel in the lower part
- Soils that have less sand and more silt
- Soils that have more sand and less clay

Dissimilar soils:
- The somewhat poorly drained La Hogue soils on footslopes and the summits of adjacent landforms
- The poorly drained Selma soils on the toeslopes of adjacent landforms

Properties and Qualities of the Ambraw Soil

Parent material: Alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Frequency and most likely period of flooding: Occasional, November through June
Months when flooding does not occur: July through October
Accelerated erosion: None
Potential for frost action: High
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Andres Series

Drainage class: Somewhat poorly drained
Permeability: Moderate in the upper part of the profile, slow in the lower part
Landform: Ground moraines and lake plains
Parent material: Thin mantle of loess or other silty material and the underlying outwash and till
Slope range: 0 to 5 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Andres silt loam, 0 to 2 percent slopes; at an elevation of 633 feet; 1,525 feet south and 510 feet east of the northwest corner of sec. 27, T. 30 N., R. 8 E.; Livingston

County, Illinois; USGS Campus topographic quadrangle; lat. 41 degrees 02 minutes 53 seconds N. and long. 88 degrees 18 minutes 16 seconds W., NAD 27:

Ap—0 to 11 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; few very fine roots; neutral; abrupt smooth boundary.

BA—11 to 14 inches; brown (10YR 4/3) clay loam; moderate medium subangular blocky structure; friable; few very fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt1—14 to 19 inches; brown (10YR 4/3) clay loam; moderate fine subangular blocky structure; friable; few very fine roots; common fine distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine prominent strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concretions throughout; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt2—19 to 26 inches; grayish brown (10YR 5/2) clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; common fine faint gray (10YR 5/1) iron depletions in the matrix; few fine prominent strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concretions throughout; neutral; clear smooth boundary.

Bt3—26 to 36 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine prismatic structure parting to moderate medium angular blocky; friable; few very fine roots; common faint dark gray (10YR 4/1) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint gray (10YR 5/1) iron depletions in the matrix; few fine prominent strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concretions throughout; neutral; clear smooth boundary.

2Bt4—36 to 50 inches; light olive brown (2.5Y 5/4) silty clay loam; weak medium prismatic structure; firm; common faint grayish brown (2.5Y 5/2) clay films on faces of peds; few very fine roots; many medium prominent gray (N 5/0) iron depletions in the matrix; few fine prominent strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concretions throughout; 3 percent gravel; very slightly effervescent; slightly alkaline; clear smooth boundary.

2C—50 to 60 inches; light olive brown (2.5Y 5/4) silty clay loam; massive; firm; few fine prominent strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concretions throughout; many medium prominent gray (N 5/0) iron depletions in the matrix; 5 percent gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess or other silty material: Less than 24 inches
Depth to till: 22 to 50 inches
Depth to carbonates: 24 to 55 inches
Thickness of the solum: 36 to 60 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam, loam, or silty clay loam

Bt horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—2 to 4
Texture—clay loam, loam, or sandy clay loam

2Bt horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—silty clay loam or silt loam

2C horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—silty clay loam or silt loam

293A—Andres silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Footslopes and summits

Map Unit Composition

Andres and similar soils: 88 percent
Dissimilar soils: 12 percent

Minor Components

Similar soils:
- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Andres Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash and till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate

Corrosivity: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

293B—Andres silt loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Backslopes and footslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have slopes of less than 2 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Andres Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash and till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Ashkum Series

Drainage class: Poorly drained
Permeability: Moderately slow
Landform: Ground moraines and end moraines
Parent material: Colluvium and the underlying till
Slope range: 0 to 2 percent
Taxonomic classification: Fine, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Ashkum silty clay loam, 0 to 2 percent slopes; at an elevation of 705 feet; 96 feet south and 2,030 feet east of the northwest corner of sec. 22, T. 34 N., R. 11 E.; Will County, Illinois; USGS Manhattan topographic quadrangle; lat. 41 degrees 25 minutes 28 seconds N. and long. 87 degrees 57 minutes 24 seconds W., NAD 27:

Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; many very fine roots; neutral; clear smooth boundary.

A—7 to 12 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; common very fine roots; neutral; clear smooth boundary.

BAg—12 to 18 inches; dark gray (2.5Y 4/1) silty clay loam; moderate very fine and fine subangular blocky structure; firm; common very fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; common fine very dark gray (7.5YR 3/1) very weakly cemented iron and manganese oxide concretions throughout; neutral; clear smooth boundary.

Bg1—18 to 29 inches; grayish brown (2.5Y 5/2) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; common very fine roots; few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine very dark gray (7.5YR 3/1) very weakly cemented iron and manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint gray (2.5Y 5/1) iron depletions in the matrix; neutral; clear wavy boundary.

2Bg2—29 to 49 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine very dark gray (10YR 3/1) very weakly cemented iron and manganese oxide concretions throughout; common fine and medium prominent yellowish brown (10YR 5/8) and faint brown (10YR 5/3) masses of iron accumulation in the matrix; common fine and medium faint gray (5Y 5/1) iron depletions in the matrix; 8 percent gravel; neutral; gradual wavy boundary.

2BCg—49 to 54 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 fine very dark gray (10YR 3/1) very weakly cemented iron and manganese oxide concretions throughout; common fine and medium prominent yellowish brown (10YR 5/6) and faint brown (10YR 5/3) masses of iron accumulation in the matrix; common fine and medium faint gray (2.5Y 5/1) iron depletions in the matrix; 8 percent gravel; slightly effervescent; slightly alkaline; gradual wavy boundary.

2Cg—54 to 60 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; common fine prominent yellowish brown (10YR 5/6) and common fine and medium faint brown (10YR 5/3) masses of iron accumulation in the matrix; common fine faint gray (2.5Y 5/1) iron depletions in the matrix; 8 percent gravel; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Thickness of the colluvium: 15 to 40 inches
Depth to carbonates: 24 to 60 inches
Thickness of the solum: 30 to 60 inches

Ap and A horizons:
Hue—10YR, 2.5Y, or neutral
Value—2 to 3
Chroma—0 or 1
Texture—silty clay loam

Bg horizon:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—3 to 6
Chroma—0 to 2
Texture—silty clay loam or silty clay

2Bg horizon:
Hue—2.5Y, 5Y, 5GY, or neutral
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam

2Cg horizon:
Hue—2.5Y, 5Y, 5GY, or neutral
Value—5 or 6
Chroma—0 to 2
Texture—silty clay loam
Content of gravel—less than 10 percent

232A—Ashkum silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Toeslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have a thicker surface layer
- Soils that are overlain by recent light-colored deposits
- Soils that have more sand in the lower part
- Soils that have less clay in the subsoil

Dissimilar soils:
- The somewhat poorly drained Elliott soils on summits and footslopes
- The very poorly drained Houghton soils on toeslopes

Properties and Qualities of the Ashkum Soil

Parent material: Colluvium and the underlying till
Drainage class: Poorly drained

Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 7.0 percent
Shrink-swell potential: High
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Flooding: None
Accelerated erosion: Negligible
Potential for frost action: High
Corrosivity: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Beardstown Series

Drainage class: Somewhat poorly drained
Permeability: Moderate
Landform: Outwash plains and stream terraces
Parent material: Outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Udollic Endoaqualfs

Typical Pedon

Beardstown silt loam, 0 to 2 percent slopes; at an elevation of 648 feet; 300 feet north and 420 feet west of the southeast corner of sec. 12, T. 31 N., R. 12 E.; Kankakee County, Illinois; USGS Bradley topographic quadrangle; lat. 41 degrees 10 minutes 46 seconds N. and long. 87 degrees 46 minutes 51 seconds W., NAD 27:

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

E—8 to 16 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium platy structure; friable; common very fine roots; few distinct very dark gray (10YR 3/1) organic coatings on horizontal faces of peds; few fine strong brown (7.5YR 5/8) iron oxide concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Bt—16 to 20 inches; light olive brown (2.5Y 5/3) loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; few distinct dark brown (10YR 3/3) organic coatings on faces of peds and in pores; common fine and medium brown (7.5YR 4/4) iron oxide concretions throughout; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; 1 percent gravel; moderately acid; clear smooth boundary.

Btg1—20 to 26 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate medium and coarse subangular blocky structure; friable; common very fine roots; many faint grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent strong brown (7.5YR 4/6 and 5/6) masses of iron accumulation in the matrix; 1 percent gravel; slightly acid; clear wavy boundary.

Btg2—26 to 36 inches; light brownish gray (2.5Y 6/2) loam; moderate medium and coarse subangular blocky structure; friable; common very fine roots; few faint grayish brown (10YR 5/2) clay films on faces of peds; common fine and medium prominent strong brown (7.5YR 4/6 and 5/6) masses of iron accumulation in the matrix; 2 percent gravel; slightly acid; clear wavy boundary.

Btg3—36 to 43 inches; gray (2.5Y 5/1) sandy clay loam; weak medium and coarse subangular blocky structure; friable; common very fine roots; few distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common medium and coarse prominent strong brown (7.5YR 4/6) and common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; 2 percent gravel; neutral; clear wavy boundary.

BCg—43 to 51 inches; gray (2.5Y 5/1) sandy clay loam; weak coarse subangular blocky structure; friable; common medium and coarse prominent strong brown (7.5YR 4/6) and common fine and medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; 2 percent gravel; neutral; clear wavy boundary.

Cg—51 to 62 inches; dark gray (10YR 4/1), stratified sandy loam and loamy sand; massive; very friable; common medium prominent strong brown (7.5YR 5/8) and yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 3 percent gravel; neutral.

Range in Characteristics

Depth to carbonates: More than 60 inches
Thickness of the solum: 40 to 60 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam or loam

E horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 3
Texture—silt loam, loam, or sandy loam

Bt and Btg horizons:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 3
Texture—clay loam, loam, sandy clay loam, silty clay loam, or sandy loam
Content of gravel—less than 7 percent

C or Cg horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 6
Texture—stratified loam, sandy loam, silt loam, or loamy sand
Content of gravel—less than 15 percent

188A—Beardstown silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Footslopes and summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have less clay and more sand in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have more gravel or cobbles in the lower part
- Soils that have a lighter colored surface layer
- Soils that have a thicker surface layer

Dissimilar soils:
- The well drained Jasper soils on summits and backslopes
- The poorly drained Gilford soils on toeslopes
- The poorly drained Selma soils on toeslopes

Properties and Qualities of the Beardstown Soil

Parent material: Outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): 0.5 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: High
Corrosivity: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

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

Beecher Series

Drainage class: Somewhat poorly drained
Permeability: Slow
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying till

Slope range: 0 to 4 percent
Taxonomic classification: Fine, illitic, mesic Udollic Epiaqualfs

Typical Pedon

Beecher silt loam, 0 to 2 percent slopes; at an elevation of 655 feet; 340 feet south and 65 feet west of the northeast corner of sec. 14, T. 31 N., R. 12 E.; Kankakee County, Illinois; USGS Bradley topographic quadrangle; lat. 41 degrees 10 minutes 36 seconds N. and long. 87 degrees 47 minutes 56 seconds W., NAD 27:

Ap—0 to 9 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; weak very fine granular structure; friable; neutral; abrupt smooth boundary.

BE—9 to 13 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate very fine granular structure; friable; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine faint brown (10YR 5/3) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

2Bt1—13 to 16 inches; brown (10YR 5/3) silty clay loam; moderate very fine subangular blocky structure; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine black (10YR 2/1) iron and manganese oxide concretions throughout; many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 1 percent gravel; moderately acid; clear smooth boundary.

2Bt2—16 to 21 inches; grayish brown (10YR 5/2) silty clay loam; moderate very fine and fine subangular blocky structure; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct dark gray (10YR 4/1) clay films on faces of peds; many fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; moderately acid; clear smooth boundary.

2Bt3—21 to 27 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to moderate fine subangular blocky; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine dark brown (7.5YR 3/3) and black (10YR 2/1) iron and manganese oxide concretions throughout; few fine prominent yellowish brown (10YR 5/6 and 5/8) masses of iron accumulation in the matrix; 2 percent gravel; slightly alkaline; clear smooth boundary.

2Bt4—27 to 32 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine black (10YR 2/1) iron and manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/8) and distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; many medium prominent gray (5Y 5/1) iron depletions in the matrix; 2 percent gravel; slightly alkaline; clear smooth boundary.

2BCt—32 to 37 inches; yellowish brown (10YR 5/6) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine black (10YR 2/1) iron and manganese oxide concretions throughout; many coarse prominent gray (5Y 5/1) iron depletions in the matrix; 2 percent gravel; slightly effervescent; moderately alkaline; clear smooth boundary.

2Cd—37 to 60 inches; yellowish brown (10YR 5/4) silty clay loam; massive; very firm; few fine black (10YR 2/1) iron and manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/8) and distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine prominent greenish gray (5GY 5/1) iron depletions in the matrix; common medium prominent greenish gray (5G 6/1) iron depletions on cleavage planes; 5 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: Less than 18 inches
Depth to carbonates: 20 to 42 inches
Thickness of the solum: 24 to 45 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

E horizon (if it occurs):
Hue—10YR
Value—4 or 5
Chroma—2
Texture—silt loam

2Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam or silty clay
Content of gravel—less than 5 percent

2BCt and 2Cd horizons:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam
Content of gravel—1 to 10 percent

298A—Beecher silt loam, 0 to 2 percent slopes

Setting

Landform: End moraines and ground moraines
Position on the landform: Footslopes and summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have a lighter colored surface layer
- Soils that have a thicker surface layer
- Soils that have slopes of more than 2 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet

Dissimilar soils:
- Moderately well drained, clayey Orthents on summits and backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Beecher Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 45 inches to dense material
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 0.5 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: High
Corrosivity: High for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

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

298B—Beecher silt loam, 2 to 4 percent slopes

Setting

Landform: End moraines and ground moraines
Position on the landform: Backslopes and footslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that are moderately eroded
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have a lighter colored surface layer

Dissimilar soils:
- Moderately well drained, clayey Orthents on summits and backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Beecher Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 45 inches to dense material

Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 0.5 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: High
Corrosivity: High for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Bonfield Series

Drainage class: Somewhat poorly drained
Permeability: Moderate in the upper part of the profile, moderately rapid in the lower part
Landform: Outwash plains and stream terraces
Parent material: Loamy outwash and the underlying cobbly outwash
Slope range: 0 to 2 percent
Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Aquic Hapludolls

Typical Pedon

Bonfield loam, 0 to 2 percent slopes; at an elevation of 623 feet; 195 feet north and 126 feet east of the southwest corner of sec. 34, T. 31 N., R. 10 E; Kankakee County, Illinois; USGS Herscher topographic quadrangle; lat. 41 degrees 07 minutes 04 seconds N. and long. 88 degrees 04 minutes 03 seconds W., NAD 27:

Ap—0 to 9 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; many very fine roots; neutral; abrupt smooth boundary.

AB—9 to 14 inches; 80 percent black (10YR 2/1) and 20 percent brown (10YR 5/3) sandy loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; common very fine roots; slightly alkaline; clear smooth boundary.

Bw1—14 to 20 inches; yellowish brown (10YR 5/4) sandy loam; weak very fine subangular blocky structure; friable; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine prominent black (7.5YR 2.5/1) manganese nodules throughout; many fine distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; 3 percent gravel; moderately alkaline; clear smooth boundary.

2Bw2—20 to 26 inches; yellowish brown (10YR 5/4) very cobbly fine sandy loam; weak medium subangular blocky structure; friable; few medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; many fine distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; 35 percent cobbles and 12 percent gravel; strongly effervescent; moderately alkaline; gradual smooth boundary.

2C—26 to 60 inches; 50 percent very pale brown (10YR 7/4) and 50 percent brownish yellow (10YR 6/6) very cobbly fine sandy loam; massive; 45 percent cobbles and 10 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 18 inches
Depth to cobbly outwash: 10 to 30 inches
Thickness of the solum: 20 to 45 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—loam, sandy loam, fine sandy loam, sandy clay loam, or clay loam

Bt or Bw horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 8
Texture—loam, sandy loam, clay loam, fine sandy loam, or sandy clay loam
Content of cobbles—0 to 15 percent

2Bt or 2Bw horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 8
Texture—the very cobbly or cobbly analogs of loam, sandy loam, or fine sandy loam
Content of cobbles—20 to 60 percent

2C horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—the extremely cobbly, very cobbly, or cobbly analogs of loam, sandy loam, or fine sandy loam
Content of cobbles—20 to 70 percent

493A—Bonfield loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Footslopes and summits

Map Unit Composition

Bonfield and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have more sand and less clay
- Soils that have slopes of more than 2 percent
- Soils that have more cobbles in the upper part
- Soils that have less sand and more silt in the upper part
- Soils that have a seasonal high water table at a depth of more than 2 feet

Dissimilar soils:
- The well drained Kankakee soils on summits
- The poorly drained Fieldon soils on toeslopes
- The poorly drained Gilford soils on toeslopes
- The poorly drained Tallmadge soils on toeslopes

Properties and Qualities of the Bonfield Soil

Parent material: Loamy outwash and the underlying cobbly outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2s
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Braidwood Series

Drainage class: Well drained
Permeability: Moderate in the upper part of the profile, moderately slow in the lower part
Landform: Spoil piles on outwash plains
Parent material: Mine spoil
Slope range: 1 to 70 percent
Taxonomic classification: Coarse-loamy, mixed, subactive, calcareous, mesic Typic Udorthents

Typical Pedon

Braidwood loam, 20 to 70 percent slopes; at an elevation of 620 feet; 360 feet north and 680 feet west of the southeast corner of sec. 32, T. 32 N., R. 9 E.; Will County, Illinois; USGS Essex topographic quadrangle; lat. 41 degrees 12 minutes 13 seconds N. and long. 88 degrees 12 minutes 27 seconds W., NAD 27:

A—0 to 6 inches; 70 percent dark gray (10YR 4/1) and 30 percent very dark grayish brown (10YR 3/2) loam, gray (10YR 6/1) dry; weak fine granular structure; friable; many very fine to coarse roots; few fine prominent brownish yellow (10YR 6/8) weakly cemented iron oxide concretions lining pores; 2 percent gravel and 3 percent coal fragments; strongly effervescent; moderately alkaline; gradual wavy boundary.

AC—6 to 15 inches; dark gray (2.5Y 4/1) silt loam, gray (2.5Y 6/1) dry; massive; friable; common very fine to medium roots; common medium prominent brownish yellow (10YR 6/8) weakly cemented iron oxide concretions throughout; 4 percent gravel and 1 percent coal fragments; strongly effervescent; moderately alkaline; gradual wavy boundary.

C1—15 to 25 inches; dark grayish brown (2.5Y 4/2) loam; massive; firm; common very fine to medium roots; 4 percent gravel, 1 percent channers, and 1 percent coal fragments; violently effervescent; moderately alkaline; gradual wavy boundary.

C2—25 to 37 inches; dark grayish brown (2.5Y 4/2) loam; massive; firm; common very fine and fine roots; 6 percent gravel, 1 percent channers, and 4 percent coal fragments; violently effervescent; moderately alkaline; clear wavy boundary.

C3—37 to 65 inches; stratified dark gray (10YR 4/1) loam (55 percent) and dark yellowish brown (10YR 4/4) sand (45 percent); massive (loam) and single grain (sand); firm (loam) and loose (sand); few fine and medium roots; common medium prominent brown (7.5YR 4/4) weakly cemented iron oxide concretions throughout; common fine distinct black (10YR 2/1) strongly cemented manganese oxide nodules throughout; 5 percent gravel, 1 percent channers, and 1 percent coal fragments; violently effervescent; moderately alkaline.

Range in Characteristics

Content of rock fragments: 0 to 15 percent

A horizon:
Hue—10YR or 2.5Y
Value—3 or 4
Chroma—1 or 2
Texture—loam or silt loam

AC horizon:
Hue—10YR or 2.5Y
Value—3 or 4
Chroma—1 or 2
Texture—loam or silt loam

C horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—stratified loam, silt loam, sandy loam, loamy sand, or sand

688B—Braidwood loam, 1 to 7 percent slopes

Setting

Landform: Spoil piles on outwash plains
Position on the landform: Shoulders and summits

Map Unit Composition

Braidwood and similar soils: 90 percent
Dissimilar components: 10 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 1 percent or more than 7 percent
- Soils that have less sand and more silt in the upper part
- Soils that have more rock fragments throughout

Dissimilar components:
- The somewhat poorly drained Watseka soils on summits and footslopes
- Areas of water

Properties and Qualities of the Braidwood Soil

Parent material: Mine spoil
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 4.0 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Low for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

688D—Braidwood loam, 7 to 20 percent slopes

Setting

Landform: Spoil piles on outwash plains
Position on the landform: Backslopes

Map Unit Composition

Braidwood and similar soils: 90 percent
Dissimilar components: 10 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 7 percent or more than 20 percent
- Soils that have less sand and more silt in the upper part
- Soils that have more rock fragments throughout

Dissimilar components:
- Nearly level to gently sloping areas of natural soils
- Areas of water

Properties and Qualities of the Braidwood Soil

Parent material: Mine spoil
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.9 inches to a depth of 60 inches

Content of organic matter in the surface layer: 0.5 to 4.0 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Low for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

688G—Braidwood loam, 20 to 70 percent slopes

Setting

Landform: Spoil piles on outwash plains
Position on the landform: Backslopes

Map Unit Composition

Braidwood and similar soils: 90 percent
Dissimilar components: 10 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 20 percent or more than 70 percent
- Soils that have less sand and more silt in the upper part
- Soils that have more rock fragments throughout

Dissimilar components:
- Strongly sloping areas of natural soils
- Areas of water

Properties and Qualities of the Braidwood Soil

Parent material: Mine spoil
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 4.0 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Low for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 7e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Brenton Series

Drainage class: Somewhat poorly drained
Permeability: Moderate
Landform: Outwash plains and stream terraces
Parent material: Loess or other silty material and the underlying outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Brenton silt loam, 0 to 2 percent slopes; at an elevation of 612 feet; 60 feet west and 1,760 feet south of the northeast corner of sec. 29, T. 30 N., R. 4 E.; Livingston County, Illinois; USGS Streator South topographic quadrangle; lat. 41 degrees 02 minutes 33 seconds N. and long. 88 degrees 46 minutes 39 seconds W., NAD 27:

Ap—0 to 12 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; few very fine roots; neutral; abrupt smooth boundary.

Bt1—12 to 18 inches; dark grayish brown (10YR 4/2) silty clay loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt2—18 to 24 inches; brown (10YR 5/3) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint 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 faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt3—24 to 28 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint 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 faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

2Bt4—28 to 34 inches; grayish brown (10YR 5/2) clay loam; weak fine prismatic structure parting to weak fine angular blocky; friable; few very fine roots; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine prominent strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concentrations throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint gray (10YR 5/1) iron depletions; neutral; clear smooth boundary.

2Bt5—34 to 44 inches; grayish brown (10YR 5/2) sandy loam; weak fine prismatic structure; friable; few faint 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 faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

2C—44 to 60 inches; grayish brown (10YR 5/2), stratified sandy loam and loamy sand; massive; very friable; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 4 percent gravel; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess or other silty material: 24 to 40 inches
Depth to carbonates: More than 40 inches
Thickness of the solum: 40 to more than 60 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 8
Texture—silty clay loam or silt loam

2Bt horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 7
Chroma—1 to 8
Texture—stratified clay loam, loam, sandy clay loam, or silt loam
Content of gravel—less than 5 percent

2C horizon:
Hue—7.5Y, 10YR, 2.5Y, or 5Y
Value—4 to 7
Chroma—1 to 8
Texture—stratified loam, sandy loam, sandy clay loam, or loamy sand
Content of gravel—less than 15 percent

149A—Brenton silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Footslopes and summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have more gravel in the lower part
- Soils that have slopes of more than 2 percent
- Soils that have till in the lower part
- Soils that have loamy outwash within a depth of 24 inches
- Soils that have a seasonal high water table at a depth of more than 2 feet

Dissimilar soils:
- The well drained Jasper soils on summits and backslopes

- The poorly drained Drummer soils on toeslopes
- The poorly drained Pella soils on toeslopes

Properties and Qualities of the Brenton Soil

Parent material: Loess or other silty material and the underlying outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: High
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Bryce Series

Drainage class: Poorly drained
Permeability: Very slow
Landform: Glacial lakes (relict) and ground moraines
Parent material: Colluvium and the underlying till
Slope range: 0 to 2 percent
Taxonomic classification: Fine, mixed, superactive, mesic Vertic Endoaquolls

Typical Pedon

Bryce silty clay, 0 to 2 percent slopes; at an elevation of 675 feet; 2,559 feet north and 45 feet west of the center of sec. 7, T. 25 N., R. 13 W.; Iroquois County, Illinois; USGS Woodworth topographic quadrangle; lat. 40 degrees 38 minutes 39 seconds N. and long. 87 degrees 52 minutes 23 seconds W., NAD 27:

Ap1—0 to 10 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; weak very fine granular structure; friable; few fine black (7.5YR 2.5/1) weakly cemented nodules of iron and manganese oxide throughout; slightly acid; abrupt smooth boundary.

Ap2—10 to 13 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; moderate medium angular blocky structure; friable; moderately acid; abrupt smooth boundary.

Bg—13 to 19 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; moderate fine and medium subangular blocky structure; friable; many distinct black (10YR 2/1) organic coatings on faces of peds; common fine distinct dark grayish brown

(2.5Y 4/2) and few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear wavy boundary.

Btg1—19 to 24 inches; dark grayish brown (2.5Y 4/2) silty clay; weak medium prismatic structure parting to moderate fine and medium subangular blocky; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; many distinct black (N 2.5/0) organo-clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear wavy boundary.

Btg2—24 to 35 inches; olive gray (5Y 5/2) silty clay; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few slickensides on faces of peds; common distinct olive gray (5Y 4/2) clay films on faces of peds; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine black (7.5YR 2.5/1) weakly cemented iron and manganese oxide nodules throughout; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine faint dark gray (2.5Y 4/1) iron depletions in the matrix; neutral; gradual smooth boundary.

Btg3—35 to 45 inches; gray (5Y 5/1) silty clay; weak coarse prismatic structure parting to weak coarse subangular blocky; firm; few fine roots; common distinct dark gray (5Y 4/1) clay films on faces of peds; few slickensides and pressure faces on peds; common medium prominent light olive brown (2.5Y 5/4) and few medium prominent dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.

2BCg—45 to 58 inches; gray (5Y 5/1) silty clay; weak very coarse prismatic structure; very firm; few fine white (10YR 8/1) very weakly cemented calcium carbonate nodules and weakly cemented calcium carbonate concretions throughout; common coarse prominent brown (10YR 4/3) and common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 1 percent fine gravel; slightly effervescent; moderately alkaline; clear smooth boundary.

2Cg—58 to 66 inches; gray (5Y 5/1) silty clay; massive; very firm; many medium prominent olive brown (2.5Y 4/4) masses of iron accumulation in the matrix; 3 percent fine gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Thickness of the colluvium: 15 to 55 inches
Depth to carbonates: 24 to 60 inches
Thickness of the solum: 30 to more than 60 inches

Ap or A horizon:
Hue—10YR or neutral
Value—2 or 3
Chroma—0 or 1
Texture—silty clay or silty clay loam

Bg and Btg horizons:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—2 to 6
Chroma—0 to 3
Texture—silty clay or clay
Content of gravel—less than 5 percent

2BCg and 2Cg horizons:
Hue—2.5Y or 5Y
Value—4 to 6
Chroma—1 to 8

Texture—commonly, silty clay or clay; less commonly, silty clay loam
Content of gravel—less than 10 percent

235A—Bryce silty clay, 0 to 2 percent slopes

Setting

Landform: Glacial lakes (relict) and ground moraines
Position on the landform: Toeslopes

Map Unit Composition

Bryce and similar soils: 94 percent
Dissimilar soils: 6 percent

Minor Components

Similar soils:
- Soils that have a thicker surface layer
- Soils that have less clay in the subsoil
- Soils that have carbonates at a depth of more than 60 inches

Dissimilar soils:
- The somewhat poorly drained Mokena and Swygert soils on summits and footslopes
- The very poorly drained Rantoul soils on ground moraines and lake plains

Properties and Qualities of the Bryce Soil

Parent material: Colluvium and the underlying till
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 7.0 percent
Shrink-swell potential: High
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Flooding: None
Accelerated erosion: Negligible
Potential for frost action: High
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Channahon Series

Drainage class: Well drained
Permeability: Moderate in the upper part of the profile, moderately slow or slow in the lower part

Landform: Stream terraces and outwash plains
Parent material: Drift over dolostone
Slope range: 0 to 6 percent
Taxonomic classification: Loamy, mixed, superactive, mesic Lithic Argiudolls

Typical Pedon

Channahon silt loam, 2 to 4 percent slopes; at an elevation of 530 feet; 520 feet east and 50 feet south of the northwest corner of sec. 35, T. 34 N., R. 8 E.; Grundy County, Illinois; USGS Minooka topographic quadrangle; lat. 41 degrees 23 minutes 20 seconds N. and long. 88 degrees 17 minutes 12 seconds W., NAD 27:

A1—0 to 5 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine to medium roots; neutral; gradual wavy boundary.
A2—5 to 11 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine and medium subangular blocky structure; friable; common very fine to medium roots; neutral; gradual wavy boundary.
Bt1—11 to 15 inches; dark yellowish brown (10YR 3/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; many distinct very dark gray (10YR 3/1) organic coatings in root channels and pores; common very fine and fine roots; neutral; gradual wavy boundary.
Bt2—15 to 18 inches; brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; 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 in root channels and pores; common very fine to medium roots; 2 percent rock fragments; neutral; clear smooth boundary.
2R—18 inches; gray (10YR 6/1), unweathered limestone bedrock; strongly effervescent.

Range in Characteristics

Thickness of the mollic epipedon: 7 to 15 inches
Depth to lithic contact: 10 to 20 inches
Content of rock fragments: 0 to 20 percent

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

Bt horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 or 4
Texture—loam, silt loam, sandy loam, clay loam, or silty clay loam

315A—Channahon silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Summits

Map Unit Composition

Channahon and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have bedrock at a depth of less than 10 inches or more than 20 inches
- Soils that have less sand and more clay in the subsoil
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The deep, well drained Plattville soils on summits and footslopes

Properties and Qualities of the Channahon Soil

Parent material: Drift over dolostone
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Available water capacity: About 3.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

315B—Channahon silt loam, 2 to 4 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits and backslopes

Map Unit Composition

Channahon and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have bedrock at a depth of less than 10 inches or more than 20 inches
- Soils that have less sand and more clay in the subsoil
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar soils:
- The deep, well drained Plattville soils on summits and footslopes

Properties and Qualities of the Channahon Soil

Parent material: Drift over dolostone
Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Available water capacity: About 3.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

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

315C2—Channahon silt loam, 4 to 6 percent slopes, eroded

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Backslopes and shoulders

Map Unit Composition

Channahon and similar soils: 94 percent
Dissimilar soils: 6 percent

Minor Components

Similar soils:
- Soils that have a thinner surface layer
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have bedrock at a depth of less than 10 inches or more than 20 inches
- Soils that have less sand and more clay in the subsoil

Dissimilar soils:
- The deep, well drained Plattville soils on summits

Properties and Qualities of the Channahon Soil

Parent material: Drift over dolostone
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Available water capacity: About 2.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 3.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate

Corrosivity: Moderate for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Chatsworth Series

Drainage class: Moderately well drained
Permeability: Very slow
Landform: End moraines and ground moraines
Parent material: Till
Slope range: 4 to 6 percent
Taxonomic classification: Fine, illitic, mesic Oxyaquic Eutrudepts

Typical Pedon

Chatsworth silty clay, 4 to 6 percent slopes, severely eroded; at an elevation of 753 feet; 40 feet south and 2,200 feet west of the northeast corner of sec. 26, T. 23 N., R. 14 W.; Vermilion County, Illinois; USGS Rankin topographic quadrangle; lat. 40 degrees 25 minutes 42 seconds N. and long. 87 degrees 54 minutes 11 seconds W., NAD 27:

Ap—0 to 5 inches; dark grayish brown (2.5Y 4/2) silty clay, light brownish gray (2.5Y 6/2) dry; moderate medium granular structure; firm; slightly acid; abrupt smooth boundary.

Bw—5 to 10 inches; olive gray (5Y 4/2) silty clay; moderate fine subangular blocky structure; firm; few faint gray (5Y 5/1) coatings on faces of peds; few fine distinct olive brown (2.5Y 4/4) masses of iron accumulation and few fine faint dark gray (5Y 4/1) iron depletions in the matrix; slightly effervescent; slightly alkaline; clear wavy boundary.

BC—10 to 16 inches; olive gray (5Y 5/2) silty clay; weak medium prismatic structure parting to moderate fine subangular blocky; very firm; few faint dark gray (5Y 4/1) coatings on faces of peds; common fine distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; strongly effervescent; slightly alkaline; gradual wavy boundary.

Cd1—16 to 21 inches; gray (5Y 5/1) silty clay; massive; very firm; few faint dark gray (5Y 4/1) coatings along cleavage planes; few medium white (5Y 8/1) soft masses of calcium carbonate; common medium distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; 2 percent fine gravel; violently effervescent; moderately alkaline; gradual wavy boundary.

Cd2—21 to 36 inches; gray (5Y 5/1) silty clay; massive; very firm; common faint dark gray (5Y 4/1) coatings along cleavage planes; common medium white (5Y 8/1) soft masses of calcium carbonate; many medium prominent light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; 3 percent fine gravel; violently effervescent; moderately alkaline; gradual wavy boundary.

Cd3—36 to 60 inches; gray (5Y 5/1) silty clay; massive; very firm; many faint dark gray (5Y 4/1) coatings along cleavage planes; common medium white (5Y 8/1) soft masses of calcium carbonate; many medium prominent light olive brown (2.5Y 5/6) masses of iron accumulation in the matrix; 5 percent fine gravel; violently effervescent; moderately alkaline.

Range in Characteristics

Depth to carbonates: 0 to 20 inches
Thickness of the solum: 10 to 24 inches

Ap or A horizon:
Hue—10YR, 2.5Y, or 5Y
Value—3 or 4
Chroma—1 or 2
Texture—silty clay

Bw horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—2 or 3
Texture—commonly, silty clay or clay; less commonly, silty clay loam

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

241C3—Chatsworth silty clay, 4 to 6 percent slopes, severely eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils in which the depth to carbonates is more than 20 inches
- Soils in which the content of clay significantly increases below the surface layer

Dissimilar soils:
- The poorly drained Bryce soils on toeslopes

Properties and Qualities of the Chatsworth Soil

Parent material: Till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: 10 to 24 inches to dense material
Available water capacity: About 3.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None

Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Corrosivity: High for steel and low for concrete
Surface runoff class: Very high
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Chelsea Series

Drainage class: Excessively drained
Permeability: Rapid in the upper part of the profile, moderately rapid in the lower part
Landform: Outwash plains
Parent material: Eolian deposits
Slope range: 1 to 6 percent
Taxonomic classification: Mixed, mesic Lamellic Udipsamments

Typical Pedon

Chelsea loamy fine sand, 1 to 6 percent slopes; at an elevation of 633 feet; 700 feet north and 1,880 feet west of the southeast corner of sec. 15, T. 31 N., R. 14 E.; Kankakee County, Illinois; USGS Illiana Heights topographic quadrangle; lat. 41 degrees 10 minutes 00 seconds N. and long. 87 degrees 35 minutes 32 seconds W., NAD 27:

A—0 to 5 inches; very dark gray (10YR 3/1) loamy fine sand, gray (10YR 5/1) dry; weak fine granular structure; very friable; many very fine to coarse roots; strongly acid; abrupt smooth boundary.

E—5 to 11 inches; strong brown (7.5YR 4/6) loamy fine sand; weak thick platy structure; very friable; many very fine and fine roots; strongly acid; gradual wavy boundary.

Bw—11 to 33 inches; yellowish brown (10YR 5/4) loamy fine sand; weak medium subangular blocky structure; very friable; common very fine and fine roots; strongly acid; gradual wavy boundary.

E and Bt1—33 to 49 inches; dark yellowish brown (10YR 4/4) loamy fine sand (E); single grain; loose; lamellae of brown (10YR 4/3) fine sandy loam 1/4 to 3/4 inch thick (Bt); weak fine and medium subangular blocky structure; friable; common very fine to coarse roots; strongly acid; clear wavy boundary.

E and Bt2—49 to 61 inches; yellowish brown (10YR 5/4) loamy fine sand (E); single grain; loose; lamellae of brown (7.5YR 4/3) fine sandy loam 1/2 inch to 2 inches thick (Bt); weak fine subangular blocky structure; friable; common very fine roots; strongly acid; clear wavy boundary.

E and Bt3—61 to 80 inches; yellowish brown (10YR 5/4) loamy fine sand (E); single grain; loose; lamellae of brown (7.5YR 4/4) fine sandy loam 1 to 4 inches thick (Bt); weak medium subangular blocky structure; friable; common very fine to medium roots; strongly acid.

Range in Characteristics

Depth to lamellae: 27 to 46 inches
Thickness of the solum: More than 48 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—1 to 3
Texture—loamy fine sand

E horizon:
Hue—7.5YR or 10YR
Value—4
Chroma—2 to 6
Texture—loamy fine sand or fine sand

Bw horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—loamy fine sand or fine sand

E and Bt horizon:
Hue—10YR in the E part; 10YR or 7.5YR in the Bt part
Value—4 to 6 in the E part; 3 to 5 in the Bt part
Chroma—4 to 6 in the E part; 3 to 6 in the Bt part
Texture—fine sand or loamy fine sand in the E part; fine sandy loam or loamy fine sand in the Bt part

779B—Chelsea loamy fine sand, 1 to 6 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Backslopes and summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have a thicker surface layer
- Soils that have more clay and less sand in the lower part
- Soils that have slopes of less than 1 percent or more than 6 percent

Dissimilar soils:
- The somewhat poorly drained Ridgeville soils on summits and footslopes
- The poorly drained Gilford soils on toeslopes

Properties and Qualities of the Chelsea Soil

Parent material: Eolian deposits
Drainage class: Excessively drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Ponding: None

Flooding: None
Accelerated erosion: Slight
Potential for frost action: Low
Corrosivity: Low for steel and high for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 4s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Darroch Series

Drainage class: Somewhat poorly drained
Permeability: Moderate
Landform: Outwash plains
Parent material: Thin mantle of loess or other silty material and the underlying outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Darroch silt loam, 0 to 2 percent slopes; at an elevation of 810 feet; 2,600 feet east and 60 feet south of the northwest corner of sec. 10, T. 25 N., R. 8 W.; Benton County, Indiana; USGS Wadena, Indiana, topographic quadrangle; lat. 40 degrees 37 minutes 57.3 seconds N. and long. 87 degrees 18 minutes 51.6 seconds W., NAD 83:

Ap—0 to 11 inches; very dark gray (10YR 3/1) silt loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; many very fine roots; neutral; abrupt wavy boundary.

A—11 to 15 inches; very dark gray (10YR 3/1) silt loam, dark gray (10YR 4/1) dry; moderate medium subangular blocky structure; friable; many very fine roots; neutral; clear wavy boundary.

Btg1—15 to 21 inches; grayish brown (10YR 5/2) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common distinct very dark gray (10YR 3/1) organo-clay films lining root channels; many medium distinct yellowish brown (10YR 5/4) and prominent yellowish brown (10YR 5/8) masses of iron oxide in the matrix; few medium faint dark gray (10YR 4/1) iron oxide depletions in the matrix; slightly acid; clear wavy boundary.

2Btg2—21 to 29 inches; grayish brown (10YR 5/2) loam; moderate medium subangular blocky structure; friable; few very fine roots; common dark gray (10YR 4/1) fillings in root channels; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of iron oxide in the matrix; neutral; clear wavy boundary.

2C1—29 to 46 inches; yellowish brown (10YR 5/4) silt loam that has thin strata of fine sand; massive; friable; few dark grayish brown (10YR 4/2) fillings in root channels; common medium prominent yellowish brown (10YR 5/8) masses of iron oxide in the matrix; many medium distinct gray (10YR 6/1) iron depletions in the matrix; strongly effervescent; moderately alkaline; gradual wavy boundary.

2C2—46 to 60 inches; yellowish brown (10YR 5/4) silt loam that has thin strata of fine sand and silty clay loam; massive; friable; few black (N 2.5/0) very weakly cemented iron and manganese oxide nodules throughout; common medium prominent yellowish brown (10YR 5/8) and few medium distinct dark yellowish brown (10YR 4/6) masses of iron oxide in the matrix; common medium distinct gray (10YR 6/1) iron depletions in the matrix; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to carbonates: 24 to 45 inches
Thickness of the solum: 24 to 45 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam or loam

Btg or Bt horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 7
Chroma—1 to 6
Texture—silty clay loam, silt loam, clay loam, or loam

2Btg or 2Bt horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 7
Chroma—1 to 6
Texture—sandy clay loam, loam, sandy loam, fine sandy loam, or clay loam
Content of gravel—less than 7 percent

2C or 2Cg horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—1 to 6
Texture—loam or silt loam with thin strata of other textures
Content of gravel—less than 15 percent

740A—Darroch silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Footslopes

Map Unit Composition

Darroch and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that do not have carbonates within a depth of 60 inches
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have less sand and more silt in the upper one-half of the profile
- Soils that have till in the lower part
- Soils that have more rock fragments in the lower part

Dissimilar soils:
- The well drained Jasper soils on summits and backslopes
- The poorly drained Selma soils on toeslopes

Properties and Qualities of the Darroch Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Dunham Series

Drainage class: Poorly drained
Permeability: Moderate in the upper part of the profile, very rapid in the lower part
Landform: Outwash plains and stream terraces
Parent material: Loess or other silty material and the underlying loamy and gravelly outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Dunham silty clay loam, 0 to 2 percent slopes; at an elevation of 690 feet; 1,060 feet south and 2,360 feet east of the northwest corner of sec. 11, T. 38 N., R. 9 E.; Du Page County, Illinois; USGS Naperville topographic quadrangle; lat. 41 degrees 47 minutes 49 seconds N. and long. 88 degrees 10 minutes 40 seconds W., NAD 27:

Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; many very fine roots; neutral; clear smooth boundary.

A—7 to 11 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak medium subangular blocky structure parting to moderate fine and medium granular; friable; common very fine roots; common fine distinct brown (10YR 4/3) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

Btg1—11 to 15 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine faint brown (10YR 5/3) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

Btg2—15 to 24 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; friable; few very fine roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common black (2.5Y 2.5/1) krotovinas; many fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; common fine faint gray (2.5Y 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

Bg1—24 to 31 inches; gray (2.5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak medium angular blocky; friable; few very fine roots; common very dark gray (2.5Y 3/1) krotovinas; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint gray (5Y 6/1) iron depletions in the matrix; neutral; clear wavy boundary.

2Bg2—31 to 35 inches; gray (2.5Y 5/1) clay loam; weak medium subangular blocky structure; friable; few very fine roots; common very dark gray (2.5Y 3/1) krotovinas; common fine distinct light olive brown (2.5Y 5/3) masses of iron accumulation in the matrix; common fine faint gray (5Y 6/1) iron depletions in the matrix; 12 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

2BCg—35 to 42 inches; grayish brown (2.5Y 5/2), stratified gravelly loam and gravelly sandy loam; weak coarse subangular blocky structure; friable; common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; 18 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

3C—42 to 60 inches; brown (10YR 5/3) very gravelly loamy sand; massive; very friable; common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; 50 percent gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess or other silty material: 24 to 50 inches
Depth to sandy and gravelly outwash: 32 to 55 inches
Depth to carbonates: 30 to 50 inches
Thickness of the solum: 36 to 55 inches

Ap and A horizons:
Hue—10YR, 2.5Y, or neutral
Value—2 or 3
Chroma—0 to 2
Texture—silty clay loam or silt loam

Btg and Bg horizons:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam or silt loam

2Bg and 2BCg horizons:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—5 or 6
Chroma—0 to 2
Texture—loam, clay loam, silt loam, sandy loam, or the gravelly analogs of those textures
Content of gravel—0 to 20 percent

3C horizon:
Hue—7.5YR, 10YR, 2.5Y, 5Y, or neutral
Value—4 to 6
Chroma—0 to 8
Texture—gravelly sandy loam to extremely gravelly coarse sand
Content of gravel—15 to 70 percent

523A—Dunham silty clay loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Toeslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils in which the depth to sandy and gravelly deposits is less than 32 inches or more than 55 inches
- Soils that have carbonates at a depth of less than 30 inches
- Soils that have more sand in the upper one-half of the profile

Dissimilar soils:
- The very poorly drained Houghton soils on toeslopes

Properties and Qualities of the Dunham Soil

Parent material: Loess or other silty material and the underlying loamy and gravelly outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Very rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 6.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Flooding: None
Accelerated erosion: Negligible
Potential for frost action: High
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Elizabeth Series

Drainage class: Somewhat excessively drained
Permeability: Moderate in the upper part of the profile, moderately slow or slow in the lower part
Landform: Strath terraces
Parent material: Loamy material over dolostone
Slope range: 12 to 30 percent
Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Lithic Hapludolls

Typical Pedon

Elizabeth silt loam, 12 to 20 percent slopes; at an elevation of 575 feet; 120 feet north and 1,100 feet east of the southwest corner of sec. 16, T. 32 N., R. 10 E.; Will County, Illinois; USGS Bonfield topographic quadrangle; lat. 41 degrees 14 minutes 55 seconds N. and long. 88 degrees 05 minutes 11 seconds W., NAD 27:

A1—0 to 5 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak medium granular structure; friable; many very fine to medium roots; neutral; gradual wavy boundary.
A2—5 to 13 inches; 60 percent very dark grayish brown (10YR 3/2) and 40 percent very dark gray (10YR 3/1) loam, grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure; friable; many very fine to medium roots; 5 percent cobbles; slightly effervescent; slightly alkaline; clear wavy boundary.
A3—13 to 16 inches; 70 percent dark brown (10YR 3/3) and 30 percent very dark grayish brown (10YR 3/2) very cobbly loam, brown (10YR 5/3) dry; weak fine granular structure; friable; 50 percent cobbles; slightly effervescent; moderately alkaline; clear wavy boundary.
R—16 inches; white (10YR 8/1), fractured bedrock.

Range in Characteristics

Depth to lithic contact: 7 to 20 inches
Thickness of the solum: 7 to 20 inches

A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam, loam, clay loam, or silty clay loam
Content of rock fragments—less than 15 percent

403E—Elizabeth silt loam, 12 to 20 percent slopes

Setting

Landform: Strath terraces
Position on the landform: Backslopes

Map Unit Composition

Elizabeth and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have bedrock at a depth of less than 7 inches or more than 20 inches

- Soils that have slopes of less than 12 percent or more than 20 percent
- Soils that have a lighter colored surface layer

Dissimilar soils:
- The well drained Channahon soils on backslopes

Properties and Qualities of the Elizabeth Soil

Parent material: Loamy material over dolostone
Drainage class: Somewhat excessively drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 7 to 20 inches to lithic bedrock
Available water capacity: About 2.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 5.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Low for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 7s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

403F—Elizabeth silt loam, 20 to 30 percent slopes

Setting

Landform: Strath terraces
Position on the landform: Backslopes

Map Unit Composition

Elizabeth and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have bedrock at a depth of less than 7 inches or more than 20 inches
- Soils that have slopes of less than 20 percent or more than 30 percent
- Soils that have a lighter colored surface layer

Dissimilar soils:
- The well drained Channahon soils on backslopes

Properties and Qualities of the Elizabeth Soil

Parent material: Loamy material over dolostone
Drainage class: Somewhat excessively drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 7 to 20 inches to lithic bedrock

Available water capacity: About 2.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 5.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Low for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 7s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Elliott Series

Drainage class: Somewhat poorly drained
Permeability: Slow
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying till
Slope range: 0 to 4 percent
Taxonomic classification: Fine, illitic, mesic Aquic Argiudolls

Taxadjunct Feature

Elliott silty clay loam, 2 to 4 percent slopes, eroded, has a mollic epipedon that is less than 10 inches thick. It is classified as a fine, illitic, mesic Aquollic Hapludalf.

Typical Pedon

Elliott silt loam, 0 to 2 percent slopes; at an elevation of 704 feet; 690 feet south and 2,436 feet west of the center of sec. 21, T. 29 N., R. 8 E.; Livingston County, Illinois; USGS Cullom topographic quadrangle; lat. 40 degrees 58 minutes 12 seconds N. and long. 88 degrees 19 minutes 17 seconds W., NAD 27:

Ap—0 to 6 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; common fine roots; moderately acid; abrupt smooth boundary.

A—6 to 11 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; common fine roots; slightly acid; clear smooth boundary.

Bt1—11 to 16 inches; light olive brown (2.5Y 5/4) silty clay; moderate fine subangular blocky structure; friable; common fine roots; few distinct black (10YR 2/1) organic coatings on faces of peds; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; neutral; clear smooth boundary.

2Bt2—16 to 23 inches; light olive brown (2.5Y 5/4) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few fine roots; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; 1 percent gravel; neutral; clear smooth boundary.

2Bt3—23 to 28 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few fine roots;

common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 1 percent gravel; neutral; clear smooth boundary.

2Bt4—28 to 35 inches; olive brown (2.5Y 4/4) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; firm; few fine roots; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; few medium white (10YR 8/1) calcium carbonate concretions throughout; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 1 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

2Bt5—35 to 41 inches; olive brown (2.5Y 4/4) silty clay loam; weak fine prismatic structure parting to moderate medium angular blocky; firm; few fine roots; common distinct gray (5Y 6/1) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; strongly effervescent; slightly alkaline; clear smooth boundary.

2Cd—41 to 60 inches; olive brown (2.5Y 4/4) silty clay loam; massive; very firm; common fine prominent gray (5Y 5/1) iron depletions in the matrix; 3 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess or other silty material: Less than 20 inches
Depth to carbonates: 17 to 40 inches
Thickness of the solum: 20 to 45 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam or silty clay loam

Bt and 2Bt horizons:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam or silty clay
Content of gravel—less than 10 percent

2Cd horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam
Content of gravel—less than 15 percent

146A—Elliott silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Summits and footslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have more than 20 inches of loess or other silty material
- Soils that have slopes of more than 2 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet

Dissimilar soils:
- Moderately well drained, clayey Orthents on summits and backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: High
Upper limit of perched seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

146B—Elliott silt loam, 2 to 4 percent slopes

Setting

Landform: End moraines and ground moraines
Position on the landform: Backslopes and footslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have more than 20 inches of loess or other silty material
- Soils that are moderately eroded
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar soils:
- Moderately well drained, clayey Orthents on summits and backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 8.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: High
Upper limit of perched seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

146B2—Elliott silty clay loam, 2 to 4 percent slopes, eroded

Setting

Landform: End moraines and ground moraines
Position on the landform: Backslopes and footslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that are severely eroded
- Soils that have more than 20 inches of loess or other silty material
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar soils:
- Moderately well drained, clayey Orthents on summits and backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Elliott Soil

Parent material: Thin mantle of loess or other silty material and the underlying till

Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 6.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: High
Upper limit of perched seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Faxon Series

Drainage class: Poorly drained
Permeability: Moderate
Landform: Outwash plains and stream terraces
Parent material: Drift over dolostone
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Faxon silt loam, 0 to 2 percent slopes; at an elevation of 640 feet; 1,440 feet north and 714 feet east of the southwest corner of sec. 32, T. 31 N., R. 14 E.; Kankakee County, Illinois; USGS St. Anne topographic quadrangle; lat. 41 degrees 07 minutes 27 seconds N. and long. 87 degrees 38 minutes 18 seconds W., NAD 27:

Ap—0 to 5 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; common very fine roots; neutral; gradual wavy boundary.

A—5 to 10 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; common very fine roots; neutral; clear smooth boundary.

AB—10 to 13 inches; 90 percent very dark gray (10YR 3/1) and 10 percent dark grayish brown (2.5Y 4/2) clay loam, gray (10YR 5/1) dry; weak fine subangular blocky structure parting to weak fine granular; friable; common very fine roots; neutral; gradual wavy boundary.

Bg1—13 to 19 inches; dark grayish brown (2.5Y 4/2) clay loam; moderate fine and medium prismatic structure parting to moderate fine subangular blocky; friable; common very fine roots; few distinct very dark gray (2.5Y 3/1) organic coatings on faces of peds and in pores; common fine prominent yellowish brown (10YR 5/8) and strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.

Bg2—19 to 25 inches; dark grayish brown (2.5Y 4/2) clay loam; moderate medium subangular blocky structure; friable; common very fine roots; few distinct very dark gray (2.5Y 3/1) organic coatings on faces of peds and in pores; common fine prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; 3 percent cobbles and 2 percent gravel; slightly alkaline; abrupt smooth boundary.

2R—25 inches; 70 percent white (2.5Y 8/1) and 30 percent yellow (2.5Y 7/6) dolomite bedrock; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to lithic contact: 20 to 40 inches
Thickness of the solum: 20 to 40 inches

Ap and A horizons:
Hue—10YR, 2.5Y, or neutral
Value—2 or 3
Chroma—0 to 2
Texture—silt loam, loam, or clay loam

Bg horizon:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—4 or 5
Chroma—0 to 2
Texture—loam, clay loam, sandy clay loam, sandy loam, or silty clay loam
Content of rock fragments—less than 15 percent

516A—Faxon silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Toeslopes

Map Unit Composition

Faxon and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that are flooded for brief periods
- Soils that have bedrock at a depth of less than 20 inches or more than 40 inches
- Soils that have more gravel and cobbles in the lower one-half of the profile
- Soils that have more sand
- Soils that have less sand and more silt in the upper one-half of the profile

Dissimilar soils:
- The well drained Rockton soils on backslopes and summits

Properties and Qualities of the Faxon Soil

Parent material: Drift over dolostone
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 4.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 6.0 percent

Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Flooding: None
Accelerated erosion: Negligible
Potential for frost action: High
Corrosivity: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Fieldon Series

Drainage class: Poorly drained
Permeability: Moderate in the upper part of the profile, rapid in the lower part
Landform: Outwash plains
Parent material: Calcareous outwash
Slope range: 0 to 2 percent
Taxonomic classification: Coarse-loamy, mixed, superactive, calcareous, mesic Typic Endoaquolls

Typical Pedon

Fieldon loam, 0 to 2 percent slopes; at an elevation of 584 feet; 1,580 feet north and 1,100 feet east of the southwest corner of sec. 14, T. 32 N., R. 9 E.; Will County, Illinois; USGS Wilmington topographic quadrangle; lat. 41 degrees 15 minutes 06 seconds N. and long. 88 degrees 09 minutes 53 seconds W., NAD 27:

Ap—0 to 8 inches; black (N 2.5/0) loam, dark gray (N 4/0) dry; weak fine subangular blocky structure; friable; common very fine and fine roots; 2 percent shell fragments; strongly effervescent; moderately alkaline; gradual wavy boundary.
A—8 to 12 inches; black (N 2.5/0) loam, dark gray (N 4/0) dry; weak fine and medium granular structure; friable; common very fine and fine roots; 4 percent shell fragments; strongly effervescent; moderately alkaline; gradual wavy boundary.
AB—12 to 15 inches; 70 percent black (10YR 2/1) and 30 percent dark grayish brown (2.5Y 4/2) loam, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure; friable; common very fine and fine roots; 3 percent shell fragments; strongly effervescent; moderately alkaline; gradual wavy boundary.
Bg1—15 to 25 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; weak fine and medium subangular blocky structure; friable; common very fine and fine roots; common prominent black (10YR 2/1) organic coatings on faces of peds and in pores; few fine prominent dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline; gradual wavy boundary.
Bg2—25 to 36 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; weak medium and coarse subangular blocky structure; friable; common prominent black (10YR 2/1) organic coatings on horizontal faces of peds; common fine prominent dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; many fine

distinct dark gray (2.5Y 4/1) iron depletions in the matrix; slightly alkaline; gradual wavy boundary.

Cg1—36 to 46 inches; grayish brown (2.5Y 5/2) fine sandy loam; massive; very friable; common medium prominent dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; many coarse distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation in the matrix; common fine faint dark grayish brown (2.5Y 4/2) iron depletions in the matrix; very slightly effervescent; slightly alkaline; gradual wavy boundary.

Cg2—46 to 60 inches; grayish brown (2.5Y 5/2), stratified fine sandy loam to loamy fine sand; massive; very friable; few fine and medium prominent very pale brown (10YR 7/3) carbonate masses throughout; common medium prominent dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; common coarse distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation in the matrix; very slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 14 to 24 inches
Depth to carbonates: 10 inches or less
Thickness of the solum: 20 to 40 inches

Ap and A horizons:
Hue—10YR or neutral
Value—2 or 3
Chroma—0 or 1
Texture—fine sandy loam, very fine sandy loam, loam, or sandy clay loam

Bg horizon:
Hue—10YR to 5Y
Value—4 to 6
Chroma—1 to 4
Texture—very fine sandy loam, fine sandy loam, sandy clay loam, or loam

Cg horizon:
Hue—2.5Y or 5Y
Value—5 or 6
Chroma—1 to 4
Texture—stratified fine sand, loamy fine sand, or fine sandy loam

380A—Fieldon loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Toeslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have rock fragments in the middle and lower parts of the profile
- Soils that have more medium and coarse sand in the middle and lower parts of the profile
- Soils in which the depth to carbonates is more than 10 inches

Dissimilar soils:
- The somewhat poorly drained Bonfield soils on summits and footslopes
- The poorly drained, noncalcareous Gilford soils on toeslopes

Properties and Qualities of the Fieldon Soil

Parent material: Calcareous outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 6.0 percent
Shrink-swell potential: Low
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Flooding: None
Accelerated erosion: Negligible
Potential for frost action: High
Corrosivity: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Gilford Series

Drainage class: Poorly drained
Permeability: Moderately rapid in the upper part of the profile, rapid in the lower part
Landform: Outwash plains
Parent material: Outwash
Slope range: 0 to 2 percent
Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Gilford fine sandy loam, 0 to 2 percent slopes; at an elevation of 544 feet; 231 feet north and 75 feet east of the southwest corner of sec. 27, T. 33 N., R. 8 E.; Grundy County, Illinois; USGS Coal City topographic quadrangle; lat. 41 degrees 18 minutes 09 seconds N. and long. 88 degrees 18 minutes 14 seconds W., NAD 27:

Ap—0 to 10 inches; black (10YR 2/1) fine sandy loam; weak fine granular structure; very friable; slightly alkaline; abrupt smooth boundary.
A—10 to 17 inches; very dark gray (10YR 3/1) fine sandy loam; weak medium subangular blocky structure; friable; neutral; gradual wavy boundary.
AB—17 to 22 inches; very dark grayish brown (2.5Y 3/2) fine sandy loam; weak fine and medium prismatic structure parting to moderate medium subangular blocky; friable; many faint very dark gray (10YR 3/1) organic coatings on faces of peds; few fine faint olive brown (2.5Y 4/4) masses of iron accumulation in the matrix; neutral; gradual smooth boundary.

Bg1—22 to 33 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; weak medium prismatic structure parting to moderate medium and coarse subangular blocky; friable; few faint very dark grayish brown (2.5Y 3/2) organic coatings on faces of peds; common fine faint dark gray (10YR 4/1) weakly cemented manganese oxide nodules throughout; common fine prominent yellowish brown (10YR 5/6) and few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.

Bg2—33 to 41 inches; 60 percent grayish brown (2.5Y 5/2) and 40 percent dark grayish brown (2.5Y 4/2) fine sandy loam; weak coarse prismatic structure parting to weak coarse subangular blocky; friable; few fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.

Cg—41 to 54 inches; light olive gray (5Y 6/2) sand; single grain; loose; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.

C—54 to 60 inches; yellowish brown (10YR 5/8) sand; single grain; loose; common medium prominent gray (5Y 6/1) and light olive gray (5Y 6/2) iron depletions in the matrix; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Thickness of the solum: 24 to 50 inches

Ap and A horizons:
Hue—10YR, 2.5Y, or neutral
Value—2 or 3
Chroma—0 to 2
Texture—fine sandy loam, loam, or sandy loam

Bg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—fine sandy loam or sandy loam

Cg horizon:
Hue—10YR to 5Y
Value—4 to 7
Chroma—1 to 3
Texture—loamy sand, sand, coarse sand, or fine sand
Content of gravel—less than 10 percent

201A—Gilford fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Toeslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have a thinner surface soil

- Soils that have more than 10 percent gravel or cobbles in the lower part
- Soils that are undrained
- Soils that have deposits of bog iron
- Soils that are flooded for brief periods

Dissimilar soils:
- The poorly drained, calcareous Fieldon soils on toeslopes

Properties and Qualities of the Gilford Soil

Parent material: Outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Low
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Flooding: None
Accelerated erosion: Negligible
Potential for frost action: High
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Granby Series

Drainage class: Poorly drained
Permeability: Rapid
Landform: Outwash plains and lake terraces
Parent material: Outwash
Slope range: 0 to 2 percent
Taxonomic classification: Sandy, mixed, mesic Typic Endoaquolls

Typical Pedon

Granby fine sandy loam, 0 to 2 percent slopes; at an elevation of 630 feet; 1,360 feet north and 100 feet west of the southeast corner of sec. 21, T. 29 N., R. 11 W.; Iroquois County, Illinois; USGS Donovan topographic quadrangle; lat. 40 degrees 59 minutes 03 seconds N. and long. 87 degrees 34 minutes 53 seconds W., NAD 27:

Ap—0 to 8 inches; black (10YR 2/1) fine sandy loam, dark gray (10YR 4/1) dry; weak fine granular structure; very friable; neutral; abrupt smooth boundary.
A—8 to 17 inches; very dark grayish brown (10YR 3/2) loamy sand, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to weak medium granular; very friable; many faint very dark gray (10YR 3/1) organic coatings on faces of peds; few fine prominent yellowish brown (10YR 5/6) masses

of iron accumulation in the matrix; few fine faint dark grayish brown (2.5Y 4/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bg1—17 to 23 inches; dark grayish brown (2.5Y 4/2) loamy fine sand; weak fine subangular blocky structure; very friable; few coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; many coarse faint dark gray (10YR 4/1) iron depletions in the matrix; neutral; clear smooth boundary.

Bg2—23 to 30 inches; dark grayish brown (2.5Y 4/2) loamy fine sand; weak medium subangular blocky structure; very friable; a very dark grayish brown (2.5Y 3/2) krotovina at a depth of 25 to 30 inches; many coarse prominent yellowish brown (10YR 5/6) and many medium distinct olive brown (2.5Y 4/4) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline; clear smooth boundary.

Cg1—30 to 40 inches; 80 percent grayish brown (10YR 5/2) and 20 percent brown (10YR 5/3) fine sand; single grain; loose; few fine strong brown (7.5YR 4/6) weakly cemented iron oxide concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; strongly effervescent; moderately alkaline; gradual smooth boundary.

Cg2—40 to 76 inches; olive gray (5Y 5/2) fine sand; single grain; loose; common medium prominent dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; strongly effervescent; moderately alkaline; gradual smooth boundary.

Cg3—76 to 86 inches; gray (2.5Y 5/1) fine sand; single grain; loose; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the solum: 20 to 52 inches

Ap and A horizons:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—2 to 3
Chroma—0 to 2
Texture—fine sandy loam, sand, loamy fine sand, or loamy sand

Bg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 3
Texture—fine sand, sand, loamy sand, or loamy fine sand
Content of gravel—less than 5 percent

Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 7
Chroma—1 to 4
Texture—sand, fine sand, loamy fine sand, or loamy sand
Content of gravel—less than 5 percent

513A—Granby fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Lake terraces and outwash plains
Position on the landform: Toeslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have no subsurface layer
- Soils that have deposits of bog iron
- Soils that have more clay and less sand in the upper part
- Soils that have a thicker surface soil

Dissimilar soils:
- The somewhat poorly drained Watseka soils on summits and footslopes
- The very poorly drained Adrian soils on toeslopes
- The poorly drained, calcareous Fieldon soils on toeslopes

Properties and Qualities of the Granby Soil

Parent material: Outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Low
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Flooding: None
Accelerated erosion: Negligible
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 3w
Prime farmland status: Not prime farmland
Hydric soil status: Hydric

Grundelein Series

Drainage class: Somewhat poorly drained
Permeability: Moderate in the upper part of the profile, very rapid in the lower part
Landform: Outwash plains and stream terraces
Parent material: Loess or other silty material and the underlying loamy and gravelly outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Grundelein silt loam, 0 to 2 percent slopes; at an elevation of 765 feet; 340 feet south and 2,200 feet east of the northwest corner of sec. 20, T. 40 N., R. 9 E.; Du Page County, Illinois; USGS West Chicago topographic quadrangle; lat. 41 degrees 56 minutes 12 seconds N. and long. 88 degrees 14 minutes 02 seconds W., NAD 27:

Ap—0 to 8 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; common very fine roots; slightly acid; clear smooth boundary.

A—8 to 13 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak medium subangular blocky structure parting to moderate fine granular; friable; common very fine roots; neutral; abrupt smooth boundary.

Bt1—13 to 18 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; common distinct very dark gray (10YR 3/1) organic coatings and very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

Bt2—18 to 25 inches; olive brown (2.5Y 4/3) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; friable; common very fine roots; few distinct very dark grayish brown (2.5Y 3/2) organo-clay films on faces of peds; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; many fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine distinct gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

Bt3—25 to 29 inches; light olive brown (2.5Y 5/3) silty clay loam; moderate fine and medium subangular blocky structure; friable; few very fine roots; common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; many fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.

2Bt4—29 to 35 inches; light olive brown (2.5Y 5/3) silt loam; moderate medium subangular blocky structure; friable; few distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; many fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 2 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

2BC—35 to 43 inches; light olive brown (2.5Y 5/3) sandy loam; weak medium and coarse subangular blocky structure; very friable; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 4 percent gravel; strongly effervescent; moderately alkaline; abrupt wavy boundary.

3C—43 to 80 inches; brown (10YR 4/3) very gravelly loamy sand; single grain; loose; 55 percent gravel; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess or other silty material: 24 to 45 inches
Depth to sandy and gravelly outwash: 32 to 50 inches
Depth to carbonates: 27 to 50 inches
Thickness of the solum: 36 to 50 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam

Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam or silt loam

2Bt and 2BC horizons:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—loam, clay loam, silt loam, sandy loam, or the gravelly analogs of those textures
Content of gravel—0 to 20 percent

3C horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—1 to 8
Texture—gravelly sandy loam to extremely gravelly coarse sand
Content of gravel—15 to 70 percent

526A—Grundelein silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits and footslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils in which the depth to sandy and gravelly deposits is less than 32 inches or more than 50 inches
- Soils that have carbonates at a depth of less than 27 inches
- Soils that have more sand in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 2 feet

Dissimilar soils:
- The well drained Waupecan soils on summits and backslopes
- The poorly drained Dunham soils on toeslopes

Properties and Qualities of the Grundelein Soil

Parent material: Loess or other silty material and the underlying loamy and gravelly outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Very rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 5.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): 1.0 foot, January through May

Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: High
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Houghton Series

Drainage class: Very poorly drained
Permeability: Moderately slow
Landform: Ground moraines and outwash plains
Parent material: Herbaceous organic material
Slope range: 0 to 2 percent
Taxonomic classification: Euic, mesic Typic Haplosaprists

Typical Pedon

Houghton muck, 0 to 2 percent slopes; at an elevation of 647 feet; 1,220 feet south and 100 feet west of the northeast corner of sec. 20, T. 28 N., R. 11 W.; Iroquois County, Illinois; USGS Donovan topographic quadrangle; lat. 40 degrees 54 minutes 12 seconds N. and long. 87 degrees 37 minutes 03 seconds W., NAD 27:

Oap—0 to 9 inches; black (N 2.5/0) (broken face and rubbed) muck (sapric material); less than 5 percent fiber, a trace rubbed; weak fine and very fine granular structure; nonsticky; many very fine and fine roots; moderately acid; abrupt smooth boundary.

Oa2—9 to 19 inches; black (N 2.5/0) (broken face) and dark brown (7.5YR 3/2) (rubbed) muck (sapric material); about 5 to 10 percent fiber, a trace rubbed; weak fine subangular blocky structure; nonsticky; many very fine and fine roots; strongly acid; clear smooth boundary.

Oa3—19 to 28 inches; very dark gray (10YR 3/1) (broken face) and brown (7.5YR 4/4) (rubbed) muck (sapric material); about 5 to 10 percent fiber, a trace rubbed; moderate medium platy structure; nonsticky; common very fine and fine roots; slightly acid; clear smooth boundary.

Oa4—28 to 34 inches; very dark gray (10YR 3/1) (broken face) and very dark grayish brown (10YR 3/2) (rubbed) muck (sapric material); less than 5 percent fiber, a trace rubbed; moderate thick platy structure; nonsticky; few very fine and fine roots; slightly acid; clear smooth boundary.

Oa5—34 to 60 inches; black (N 2.5/0) (broken face) and black (5Y 2/1) (rubbed) muck (sapric material); less than 5 percent fiber, a trace rubbed; massive; nonsticky; common fine white (10YR 8/1) soft masses of calcium carbonate; few broken snail shells; slightly alkaline.

Range in Characteristics

Thickness of the organic material: More than 51 inches

Surface tier:
Hue—10YR or neutral

Value—2 to 3
Chroma—0 or 1

Subsurface tier:
Hue—7.5YR, 10YR, or neutral
Value—2 to 3
Chroma—0 to 2

103A—Houghton muck, 0 to 2 percent slopes

Setting

Landform: Ground moraines and outwash plains
Position on the landform: Toeslopes

Map Unit Composition

Houghton and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have carbonates in the upper one-third of the profile
- Soils that have sandy material in the lower one-half of the profile
- Soils that have organic deposits that are less than 51 inches thick
- Soils that have a surface layer that contains less organic matter

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Houghton Soil

Parent material: Herbaceous organic material
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow to moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 23.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 70.0 to 99.0 percent
Shrink-swell potential: Not rated
Upper limit of apparent seasonal high water table (depth, months): At the surface, November through June
Deepest ponding (depth, months): 1.0 foot, November through June
Flooding: None
Accelerated erosion: None
Potential for frost action: High
Corrosivity: High for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 3w
Prime farmland status: Not prime farmland
Hydric soil status: Hydric

Jasper Series

Drainage class: Well drained
Permeability: Moderate
Landform: Outwash plains
Parent material: Outwash
Slope range: 0 to 10 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Argiudolls

Taxadjunct Feature

Jasper loam, 5 to 10 percent slopes, eroded, has a mollic epipedon that is less than 10 inches thick. It is classified as a fine-loamy, mixed, superactive, mesic Mollic Hapludalf.

Typical Pedon

Jasper loam, 0 to 2 percent slopes; at an elevation of 673 feet; 380 feet south and 1,500 feet east of the northwest corner of sec. 17, T. 27 N., R. 5 E; Livingston County, Illinois; USGS Southwest Pontiac topographic quadrangle; lat. 40 degrees 48 minutes 47 seconds N. and long. 88 degrees 40 minutes 21 seconds W., NAD 27:

Ap—0 to 11 inches; very dark gray (10YR 3/1) loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; few fine roots; slightly acid; abrupt smooth boundary.

Bt1—11 to 16 inches; dark yellowish brown (10YR 4/4) clay loam; weak fine subangular blocky structure parting to moderate medium granular; friable; few fine roots; few faint brown (10YR 4/3) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.

Bt2—16 to 22 inches; dark yellowish brown (10YR 4/4) clay loam; weak fine prismatic structure parting to moderate medium angular blocky; friable; few very fine roots; few faint brown (10YR 4/3) clay films on faces of peds; few fine distinct strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concentrations throughout; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; neutral; clear smooth boundary.

Bt3—22 to 30 inches; dark yellowish brown (10YR 4/4) sandy clay loam; weak medium prismatic structure parting to moderate medium angular blocky; friable; few very fine roots; few faint brown (10YR 4/3) clay films on faces of peds; few medium distinct strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concretions throughout; few fine distinct yellowish brown (10YR 5/6) and few fine faint brown (10YR 5/3) masses of iron accumulation in the matrix; 3 percent gravel; neutral; clear smooth boundary.

Bt4—30 to 38 inches; brown (10YR 4/3) sandy loam; weak medium angular blocky structure; friable; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; few medium distinct strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concentrations throughout; common medium faint brown (10YR 5/3) and few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 3 percent gravel; neutral; clear smooth boundary.

BC—38 to 47 inches; brown (10YR 4/3) sandy loam; weak medium angular blocky structure; friable; common medium prominent strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concentrations throughout; common medium faint brown (10YR 5/3 and 7.5YR 4/4) masses of iron accumulation in the matrix; 5 percent gravel; neutral; clear smooth boundary.

C1—47 to 55 inches; brown (10YR 4/3) sandy loam; massive; very friable; common medium prominent strong brown (7.5YR 4/6) weakly cemented iron and manganese oxide concentrations throughout; common medium faint brown (10YR 5/3 and 7.5YR 4/4) masses of iron accumulation in the matrix; 4 percent gravel; neutral; clear smooth boundary.

C2—55 to 60 inches; 80 percent yellowish brown (10YR 5/4) and 20 percent gray (10YR 6/1) sand; single grain; loose; 5 percent gravel; very slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to carbonates: More than 35 inches
Thickness of the solum: 35 to more than 60 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—loam or fine sandy loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, sandy clay loam, loam, or silty clay loam
Content of gravel—less than 5 percent

C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—stratified sandy clay loam, silt loam, loam, fine sandy loam, sandy loam, loamy sand, fine sand, or sand
Content of gravel—less than 10 percent

440A—Jasper loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have a thinner surface layer
- Soils that have less clay and more sand in the lower part
- Soils that have slopes of more than 2 percent
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have till in the lower part

Dissimilar soils:
- The somewhat poorly drained Darroch soils on summits and footslopes
- The poorly drained Selma soils on toeslopes

Properties and Qualities of the Jasper Soil

Parent material: Outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

440B—Jasper loam, 2 to 5 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Backslopes and summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have less clay and more sand in the lower part
- Soils that are moderately eroded
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have till in the lower part

Dissimilar soils:
- The somewhat poorly drained Darroch soils on summits and footslopes
- The poorly drained Selma soils on toeslopes

Properties and Qualities of the Jasper Soil

Parent material: Outwash
Drainage class: Well drained

Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

440C2—Jasper loam, 5 to 10 percent slopes, eroded

Setting

Landform: Outwash plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Jasper and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have a lighter colored surface layer
- Soils that have less clay and more sand in the lower part
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that have till in the lower part
- Soils that have a seasonal high water table at a depth of less than 6 feet

Dissimilar soils:
- The somewhat poorly drained Darroch soils on summits and footslopes
- The poorly drained Selma soils on toeslopes

Properties and Qualities of the Jasper Soil

Parent material: Outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 4.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.

Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Kankakee Series

Drainage class: Well drained
Permeability: Moderate in the upper part of the profile, moderately rapid in the lower part
Landform: Outwash plains and stream terraces
Parent material: Loamy outwash and the underlying cobbly outwash
Slope range: 0 to 4 percent
Taxonomic classification: Loamy-skeletal, mixed, superactive, mesic Typic Hapludolls

Typical Pedon

Kankakee fine sandy loam, 0 to 2 percent slopes; at an elevation of 635 feet; 1,660 feet north and 216 feet east of the southwest corner of sec. 36, T. 31 N., R. 10 E.; Kankakee County, Illinois; USGS Herscher topographic quadrangle; lat. 41 degrees 07 minutes 21 seconds N. and long. 88 degrees 01 minute 44 seconds W., NAD 27:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) fine sandy loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; many very fine roots; neutral; abrupt smooth boundary.

A—7 to 10 inches; very dark grayish brown (10YR 3/2) fine sandy loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; many very fine roots; moderately acid; clear smooth boundary.

AB—10 to 14 inches; dark brown (10YR 3/3) fine sandy loam, brown (10YR 5/3) dry; moderate fine and medium subangular blocky structure; friable; many very fine and fine roots; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; slightly acid; clear smooth boundary.

Bt1—14 to 22 inches; yellowish brown (10YR 5/4) sandy clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; common distinct dark brown (10YR 3/3) organic coatings on faces of peds; many distinct brown (10YR 4/3) clay films on faces of peds; 3 percent gravel; slightly acid; gradual wavy boundary.

2Bt2—22 to 27 inches; dark yellowish brown (10YR 4/4) very cobbly loam; weak fine subangular blocky structure; friable; common very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; 25 percent cobbles and 15 percent gravel; neutral; gradual wavy boundary.

2C—27 to 60 inches; dark yellowish brown (10YR 4/4) very cobbly loam; massive; friable; common very fine and fine roots; common fine distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; 40 percent cobbles and 20 percent gravel; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Depth to cobbly outwash: 10 to 30 inches
Thickness of the solum: 20 to 45 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—loam, sandy loam, fine sandy loam, sandy clay loam, or clay loam

Bt or Bw horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 8
Texture—loam, sandy loam, clay loam, or sandy clay loam
Content of cobbles—0 to 15 percent

2Bt or 2Bw horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 8
Texture—the very cobbly or cobbly analogs of loam or sandy loam
Content of cobbles—15 to 60 percent

2C horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 8
Texture—the extremely cobbly, very cobbly, or cobbly analogs of loam or sandy loam
Content of cobbles—20 to 70 percent

494A—Kankakee fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits

Map Unit Composition

Kankakee and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of more than 2 percent
- Soils that have more cobbles in the upper part
- Soils that have less sand and more silt in the upper part
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have less clay and more sand

Dissimilar soils:
- The somewhat poorly drained Bonfield soils on footslopes and summits
- The poorly drained Gilford soils on toeslopes
- The poorly drained Tallmadge soils on toeslopes

Properties and Qualities of the Kankakee Soil

Parent material: Loamy outwash and the underlying cobbly outwash

Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2s
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

494B—Kankakee fine sandy loam, 2 to 4 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits and backslopes

Map Unit Composition

Kankakee and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have more cobbles in the upper part
- Soils that have less sand and more silt in the upper part
- Soils that have less clay and more sand
- Soils that have a seasonal high water table at a depth of less than 6 feet

Dissimilar soils:
- The somewhat poorly drained Bonfield soils on footslopes and summits
- The poorly drained Gilford soils on toeslopes
- The poorly drained Tallmadge soils on toeslopes
- The poorly drained Will soils on outwash plains and stream terraces

Properties and Qualities of the Kankakee Soil

Parent material: Loamy outwash and the underlying cobbly outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate

Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

La Hogue Series

Drainage class: Somewhat poorly drained
Permeability: Moderate
Landform: Outwash plains and stream terraces
Parent material: Outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

La Hogue loam, 0 to 2 percent slopes; at an elevation of 658 feet; 2,000 feet south and 545 feet west of the northeast corner of sec. 7, T. 27 N., R. 9 E.; Ford County, Illinois; USGS Piper City topographic quadrangle; lat. 40 degrees 49 minutes 47 seconds N. and long. 88 degrees 13 minutes 32 seconds W., NAD 27:

Ap—0 to 7 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; slightly acid; abrupt smooth boundary.

A—7 to 13 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; moderate very fine and fine granular structure; friable; slightly acid; clear smooth boundary.

AB—13 to 16 inches; very dark brown (10YR 2/2) loam, grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure parting to moderate fine and medium granular; friable; slightly acid; clear smooth boundary.

Bt1—16 to 24 inches; brown (10YR 4/3) clay loam; weak fine and medium prismatic structure parting to moderate fine and medium angular blocky; friable; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine faint dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; few fine faint grayish brown (2.5Y 5/2) iron depletions in the matrix; slightly acid; clear smooth boundary.

Bt2—24 to 32 inches; olive brown (2.5Y 4/4) clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; friable; many faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine prominent strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concretions throughout; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt3—32 to 39 inches; olive brown (2.5Y 4/4) sandy loam; weak medium prismatic structure parting to moderate medium angular blocky; friable; many faint dark grayish brown (10YR 4/2) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; many medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; neutral; clear smooth boundary.

BC—39 to 48 inches; light olive brown (2.5Y 5/4) sandy loam; weak medium angular blocky structure; friable; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; many medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly alkaline; clear smooth boundary.

C—48 to 60 inches; light olive brown (2.5Y 5/4) sandy loam; massive; friable; many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; many medium distinct light brownish gray (2.5Y 6/2) and common fine prominent gray (N 6/0) iron depletions in the matrix; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to carbonates: More than 60 inches
Thickness of the solum: 35 to 60 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—loam or silt loam

Bt horizon:
Hue—7.5YR, 10YR, or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—clay loam, loam, sandy clay loam, or sandy loam
Content of gravel—less than 7 percent

C or Cg horizon:
Hue—7.5YR, 10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 8
Texture—stratified loam, sandy loam, silt loam, or loamy sand
Content of gravel—less than 15 percent

102A—La Hogue loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Footslopes and summits

Map Unit Composition

La Hogue and similar soils: 90 percent
Dissimilar soils: 10 percent

Minor Components

Similar soils:
- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have carbonates at a depth of less than 60 inches
- Soils that have no subsurface layer

Dissimilar soils:
- The poorly drained Rensselaer soils on toeslopes
- The poorly drained Selma soils on toeslopes

Properties and Qualities of the La Hogue Soil

Parent material: Outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 4.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

830—Landfills

This map unit is in areas of garbage and other refuse and in areas of rubble from the demolition of buildings and pavement. The surface is typically covered by a layer of compacted earth. Slopes vary considerably. Some landfills are active, but some have been abandoned.

Map Unit Composition

Landfills: 85 percent
Dissimilar components: 15 percent

Minor Components

Dissimilar components:
- Well drained, loamy Orthents on summits and backslopes

Interpretive Groups

Land capability classification: None assigned
Prime farmland status: Not prime farmland
Hydric soil status: Unranked

Lawson Series

Drainage class: Somewhat poorly drained
Permeability: Moderate

Landform: Flood plains
Parent material: Alluvium
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls

Typical Pedon

Lawson silt loam, 0 to 2 percent slopes, occasionally flooded; at an elevation of 490 feet; 1,460 feet north and 2,440 feet east of the southwest corner of sec. 9, T. 33 N., R. 7 E.; Grundy County, Illinois; USGS Morris topographic quadrangle; lat. 41 degrees 20 minutes 47 seconds N. and long. 88 degrees 26 minutes 00 seconds W., NAD 27:

Ap—0 to 14 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; slightly alkaline; gradual smooth boundary.
A1—14 to 26 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; slightly alkaline; gradual smooth boundary.
A2—26 to 33 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; friable; slightly alkaline; gradual smooth boundary.
Cg1—33 to 60 inches; dark grayish brown (10YR 4/2) silty clay loam; massive; friable; few fine distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; slightly alkaline; gradual smooth boundary.
Cg2—60 to 80 inches; 80 percent gray (10YR 6/1) and 20 percent dark gray (10YR 4/1), stratified loam and silt loam; massive; friable; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam or silty clay loam

Cg or C horizon:
Hue—10YR or 2.5Y
Value—3 to 6
Chroma—1 to 3
Texture—silt loam, silty clay loam, or loam

8451A—Lawson silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have more gravel in the lower part
- Soils that have less silt and more clay in the upper one-half of the profile
- Soils that are overlain by recent light-colored deposits
- Soils that have a thinner subsurface layer

Dissimilar soils:
- The poorly drained Sawmill soils on toeslopes

Properties and Qualities of the Lawson Soil

Parent material: Alluvium
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Frequency and most likely period of flooding: Occasional, November through June
Months when flooding does not occur: July through October
Accelerated erosion: Negligible
Potential for frost action: High
Corrosivity: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Lena Series

Drainage class: Very poorly drained
Permeability: Moderately rapid
Landform: Ground moraines and outwash plains
Parent material: Herbaceous organic material
Slope range: 0 to 2 percent
Taxonomic classification: Euic, mesic Typic Haplosaprists

Typical Pedon

Lena muck, 0 to 2 percent slopes; at an elevation of 642 feet; 900 feet south and 2,100 feet west of the northeast corner of sec. 3, T. 31 N., R. 14 E.; Kankakee County, Illinois; USGS Illiana Heights topographic quadrangle; lat. 41 degrees 12 minutes 21 seconds N. and long. 87 degrees 35 minutes 37 seconds W., NAD 27:

Oa1—0 to 8 inches; black (10YR 2/1) (broken face and rubbed) muck (sapric material); 5 percent fiber, 1 percent rubbed; moderate fine and medium subangular blocky structure; friable; many very fine to coarse roots; common snail shells; violently effervescent; moderately alkaline; clear wavy boundary.

Oa2—8 to 24 inches; very dark gray (N 3/0) (broken face and rubbed) muck (sapric material); 5 percent fiber, 1 percent rubbed; weak fine and medium subangular blocky structure; friable; many very fine to coarse roots; 1 percent fine sand grains; common snail shells; violently effervescent; moderately alkaline; gradual wavy boundary.

Oa3—24 to 36 inches; very dark gray (N 3/0) (broken face and rubbed) muck (sapric material); 8 percent fiber, 2 percent rubbed; massive; friable; common very fine and fine roots; 3 percent fine sand grains; common snail shells; violently effervescent; moderately alkaline; gradual wavy boundary.

Oa4—36 to 60 inches; black (N 2.5/0) (broken face and rubbed) muck (sapric material); 3 percent fiber, a trace rubbed; massive; very friable; common very fine and fine roots; 5 percent fine sand grains; common snail shells; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the organic material: More than 51 inches

Surface tier:
Hue—10YR or neutral
Value—2 to 3
Chroma—0 or 1

Subsurface tier:
Hue—7.5YR, 10YR, or neutral
Value—2 to 3
Chroma—0 to 3

210A—Lena muck, 0 to 2 percent slopes

Setting

Landform: Outwash plains and ground moraines
Position on the landform: Toeslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have organic deposits that are less than 51 inches thick
- Soils that have sandy material in the lower one-half of the profile
- Soils that have a surface layer that contains less organic matter

Dissimilar soils:
- The very poorly drained, noncalcareous Houghton soils on toeslopes

Properties and Qualities of the Lena Soil

Parent material: Herbaceous organic material
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches

Available water capacity: About 23.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 60.0 to 99.0 percent
Shrink-swell potential: Not rated
Upper limit of apparent seasonal high water table (depth, months): At the surface, November through June
Deepest ponding (depth, months): 1.0 foot, November through June
Flooding: None
Accelerated erosion: None
Potential for frost action: High
Corrosivity: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 3w
Prime farmland status: Not prime farmland
Hydric soil status: Hydric

Markham Series

Drainage class: Moderately well drained
Permeability: Slow
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying till
Slope range: 2 to 6 percent
Taxonomic classification: Fine, illitic, mesic Mollic Oxyaquic Hapludalfs

Typical Pedon

Markham silt loam, 2 to 4 percent slopes; at an elevation of 775 feet; 2,125 feet south and 1,375 feet east of the northwest corner of sec. 16, T. 40 N., R. 9 E.; Du Page County, Illinois; USGS West Chicago topographic quadrangle; lat. 41 degrees 57 seconds 11 minutes N. and long. 88 degrees 13 minutes 08 seconds W., NAD 27:

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

A—5 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure parting to weak fine granular; friable; common very fine roots; moderately acid; abrupt smooth boundary.

BA—8 to 12 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; moderately acid; clear wavy boundary.

2Bt1—12 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium prismatic structure parting to moderate fine subangular blocky; friable; common very fine and fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common distinct brown (10YR 4/3) clay films on faces of peds; common fine strong brown (7.5YR 4/6) very weakly cemented iron oxide concretions throughout; 2 percent gravel; slightly acid; clear wavy boundary.

2Bt2—21 to 26 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium subangular blocky structure; friable; common very fine and fine roots; few distinct brown (10YR 4/3) clay films on faces of peds and in pores; common fine yellowish red (5YR 4/6) very weakly cemented iron oxide concretions throughout; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; 7 percent gravel; slightly effervescent; slightly alkaline; gradual wavy boundary.

2BC—26 to 32 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium and coarse angular blocky structure; firm; common very fine roots; common fine yellowish red (5YR 5/6) very weakly cemented iron oxide concretions throughout; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; 6 percent gravel; strongly effervescent; slightly alkaline; gradual wavy boundary.

2Cd1—32 to 39 inches; yellowish brown (10YR 5/4) silty clay loam; massive; very firm; few very fine roots; common fine yellowish red (5YR 5/6) very weakly cemented iron oxide concretions throughout; 6 percent gravel; violently effervescent; moderately alkaline; gradual wavy boundary.

2Cd2—39 to 60 inches; brown (10YR 5/3) silty clay loam; massive; very firm; common fine yellowish red (5YR 5/6) very weakly cemented iron oxide concretions throughout; 7 percent gravel; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: Less than 18 inches
Depth to carbonates: 18 to 42 inches
Thickness of the solum: 20 to 55 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Bt, 2Bt, and 2BC horizons:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 8
Texture—silty clay loam or silty clay
Content of gravel—less than 10 percent

2Cd horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam or clay loam
Content of gravel—less than 10 percent

531B—Markham silt loam, 2 to 4 percent slopes

Setting

Landform: End moraines and ground moraines
Position on the landform: Backslopes and summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have more sand and less clay in the upper one-half of the profile

- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have a thicker surface layer
- Soils that are moderately eroded

Dissimilar soils:
- Moderately well drained, clayey Orthents on summits and backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Markham Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 55 inches to dense material
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

531C2—Markham silt loam, 4 to 6 percent slopes, eroded

Setting

Landform: End moraines and ground moraines
Position on the landform: Backslopes and shoulders

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have a lighter colored surface layer
- Soils that are severely eroded

Dissimilar soils:
- The nearly level, somewhat poorly drained Beecher soils on summits and footslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Markham Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 55 inches to dense material
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 3.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Martinsville Series

Drainage class: Well drained
Permeability: Moderate
Landform: Outwash plains and stream terraces
Parent material: Outwash
Slope range: 2 to 30 percent
Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Hapludalfs

Typical Pedon

Martinsville loam, 0 to 2 percent slopes; at an elevation of about 890 feet; 1,050 feet north and 2,000 feet west of the southeast corner of sec. 22, T. 16 N., R. 2 W.; Hendricks County, Indiana; USGS Danville, Indiana, topographic quadrangle; lat. 39 degrees 48 minutes 26 seconds N. and long. 86 degrees 37 minutes 16 seconds W., NAD 27; UTM zone 16, 532432 easting and 4406435 northing, NAD 83:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; few fine roots; neutral; abrupt smooth boundary.
BE—8 to 13 inches; brown (10YR 4/3) loam; moderate medium granular structure; friable; few fine roots; neutral; clear wavy boundary.
Bt1—13 to 17 inches; dark yellowish brown (10YR 4/4) clay loam; moderate fine subangular blocky structure; firm; few fine roots; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; slightly acid; clear wavy boundary.

Bt2—17 to 35 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; many distinct dark brown (10YR 3/3) organo-clay films on faces of peds; strongly acid; gradual wavy boundary.
Bt3—35 to 43 inches; dark yellowish brown (10YR 4/4) sandy clay loam; moderate coarse subangular blocky structure; friable; common distinct dark yellowish brown (10YR 3/4) clay films on faces of peds; moderately acid; clear wavy boundary.
BC—43 to 53 inches; dark yellowish brown (10YR 3/4) sandy loam; weak coarse subangular blocky structure; very friable; slightly acid; clear wavy boundary.
C—53 to 60 inches; brown (10YR 5/3), pale brown (10YR 6/3), and dark yellowish brown (10YR 3/4), stratified sandy loam, loam, and silt loam; massive; very friable; thin strata of sand; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to carbonates: More than 40 inches
Thickness of the solum: 40 to 75 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 or 3
Texture—loam, silt loam, fine sandy loam, or sandy loam

E horizon (if it occurs):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 4
Texture—loam, silt loam, sandy loam, or fine sandy loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, loam, sandy clay loam, or sandy loam
Content of gravel—less than 10 percent

C horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—loam, sandy loam, silt loam, or loamy sand
Content of gravel—less than 10 percent

570B—Martinsville loam, 2 to 4 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits and backslopes

Map Unit Composition

Martinsville and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 2 percent or more than 4 percent

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

Dissimilar soils:
- The somewhat poorly drained Beardstown soils on summits and footslopes
- The poorly drained Selma soils on toeslopes

Properties and Qualities of the Martinsville Soil

Parent material: Outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

570C2—Martinsville loam, 4 to 6 percent slopes, eroded

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Shoulders and backslopes

Map Unit Composition

Martinsville and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have a thicker, darker surface layer
- Soils that have less clay in the subsoil

Dissimilar soils:
- The somewhat poorly drained Beardstown soils on summits and footslopes
- The poorly drained Selma soils on toeslopes

Properties and Qualities of the Martinsville Soil

Parent material: Outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

570D2—Martinsville loam, 6 to 12 percent slopes, eroded

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Backslopes

Map Unit Composition

Martinsville and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that are severely eroded
- Soils that have a thicker, darker surface layer
- Soils that have less clay in the subsoil

Dissimilar soils:
- The somewhat poorly drained Beardstown soils on summits and footslopes

Properties and Qualities of the Martinsville Soil

Parent material: Outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Ponding: None

Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

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

570E2—Martinsville loam, 12 to 20 percent slopes, eroded

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Backslopes

Map Unit Composition

Martinsville and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 12 percent or more than 20 percent
- Soils that have less clay in the subsoil

Dissimilar soils:
- The somewhat poorly drained Beardstown soils on summits and footslopes

Properties and Qualities of the Martinsville Soil

Parent material: Outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

570F—Martinsville loam, 20 to 30 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Backslopes

Map Unit Composition

Martinsville and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 20 percent or more than 30 percent
- Soils that have less clay in the subsoil

Dissimilar soils:
- The somewhat poorly drained Beardstown soils on summits and footslopes

Properties and Qualities of the Martinsville Soil

Parent material: Outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Martinton Series

Drainage class: Somewhat poorly drained
Permeability: Moderately slow
Landform: Lake plains
Parent material: Lacustrine deposits
Slope range: 0 to 2 percent
Taxonomic classification: Fine, illitic, mesic Aquic Argiudolls

Typical Pedon

Martinton silt loam, 0 to 2 percent slopes; at an elevation of 650 feet; 425 feet north and 160 feet west of the southeast corner of sec. 5, T. 27 N., R. 7 E.; Livingston

County, Illinois; USGS Forrest North topographic quadrangle; lat. 40 degrees 50 minutes 01 second N. and long. 88 degrees 26 minutes 03 seconds W., NAD 27:

Ap—0 to 7 inches; very dark gray (10YR 3/1) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; few very fine roots; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; abrupt smooth boundary.

A—7 to 12 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; few very fine roots; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; abrupt smooth boundary.

BA—12 to 19 inches; brown (10YR 4/3) silty clay loam; moderate fine angular blocky structure; friable; few very fine roots; many faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear smooth boundary.

Btg1—19 to 27 inches; dark grayish brown (10YR 4/2) silty clay; moderate fine prismatic structure parting to moderate fine angular blocky; firm; few very fine roots; common distinct very dark grayish brown (2.5Y 3/2) organo-clay films on faces of peds; few fine black (7.5YR 2.5/1) iron and manganese oxide concretions throughout; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear smooth boundary.

Btg2—27 to 39 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate fine angular blocky; firm; few very fine roots; common faint very dark grayish brown (2.5Y 3/2) organo-clay films on faces of peds; few black (7.5YR 2.5/1) iron and manganese oxide concretions throughout; many medium distinct light olive brown (2.5Y 5/4) and few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

BCtg—39 to 46 inches; grayish brown (2.5Y 5/2) silt loam; weak medium prismatic structure; friable; few faint dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) iron and manganese oxide concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; very slightly effervescent; slightly alkaline; clear smooth boundary.

Cg—46 to 60 inches; 60 percent grayish brown (2.5Y 5/2) and 40 percent yellowish brown (10YR 5/6), stratified silty clay loam and sandy loam; massive; friable; few fine black (7.5YR 2.5/1) iron and manganese oxide concretions throughout; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to carbonates: 24 to 50 inches
Thickness of the solum: 30 to 52 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam

Btg or Bt horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 or 3
Texture—silty clay loam or silty clay

Cg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—silt loam, silty clay loam, clay loam, loam, or sandy loam

189A—Martinton silt loam, 0 to 2 percent slopes

Setting

Landform: Lake plains
Position on the landform: Summits and footslopes

Map Unit Composition

Martinton and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have gravel in the lower part
- Soils that have slopes of more than 2 percent
- Soils that have less clay in the subsoil

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes
- The poorly drained Milford soils on toeslopes

Properties and Qualities of the Martinton Soil

Parent material: Lacustrine deposits
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 5.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Milford Series

Drainage class: Poorly drained
Permeability: Moderately slow
Landform: Lake plains
Parent material: Lacustrine deposits
Slope range: 0 to 2 percent
Taxonomic classification: Fine, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Milford silty clay loam, 0 to 2 percent slopes; at an elevation of 643 feet; 1,450 feet north and 70 feet east of the southwest corner of sec. 4, T. 26 N., R. 14 W.; Iroquois County, Illinois; USGS Gilman topographic quadrangle; lat. 40 degrees 45 minutes 24 seconds N. and long. 87 degrees 57 minutes 29 seconds W., NAD 27:

Ap—0 to 9 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine and fine subangular and angular blocky structure; firm; many fine roots; slightly acid; abrupt smooth boundary.

A—9 to 18 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; moderate and strong very fine subangular blocky structure; firm; common fine roots; slightly acid; clear smooth boundary.

BA—18 to 22 inches; very dark gray (10YR 3/1) silty clay, gray (10YR 5/1) dry; moderate fine and medium angular blocky structure; very firm; common fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; common medium prominent olive brown (2.5Y 4/4) masses of iron accumulation in the matrix; common medium faint dark grayish brown (2.5Y 4/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bg1—22 to 31 inches; gray (5Y 5/1) silty clay loam; moderate medium and coarse prismatic structure parting to moderate medium and coarse angular and subangular blocky; very firm; common fine roots; many distinct dark gray (5Y 4/1) pressure faces on peds; few fine black (N 2.5/0) iron and manganese oxide concretions throughout; many medium prominent dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; many medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bg2—31 to 42 inches; gray (5Y 5/1) clay loam; moderate coarse prismatic structure parting to moderate medium and coarse angular blocky; very firm; few fine roots; common medium prominent dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

Bg3—42 to 50 inches; dark gray (5Y 4/1) silty clay loam stratified with thin bands of clay loam; moderate coarse prismatic structure parting to moderate coarse subangular and angular blocky; firm; few fine roots; many medium prominent dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear wavy boundary.

Cg—50 to 60 inches; gray (5Y 5/1) clay loam stratified with bands of fine sandy loam, silty clay loam, and silty clay; massive; firm; few fine roots; many coarse prominent yellowish brown (10YR 5/4 and 5/8) masses of iron accumulation in the matrix; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 12 to 24 inches
Depth to carbonates: More than 40 inches
Thickness of the solum: 36 to 60 inches

Ap and A horizons:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—2 to 3
Chroma—0 to 2
Texture—silty clay loam or silty clay

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

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam, clay loam, silt loam, loam, or sandy loam

69A—Milford silty clay loam, 0 to 2 percent slopes

Setting

Landform: Lake plains
Position on the landform: Toeslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that are flooded for brief periods
- Soils that have more gravel in the lower part
- Soils that have less clay and more silt in the subsoil
- Soils that have no subsurface layer and are light colored in the upper part of the subsoil

Dissimilar soils:
- The somewhat poorly drained Martinton soils on footslopes and summits
- The very poorly drained Houghton soils on toeslopes

Properties and Qualities of the Milford Soil

Parent material: Lacustrine deposits
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 6.0 percent
Shrink-swell potential: High
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0. 5 foot, January through May
Flooding: None
Accelerated erosion: Negligible
Potential for frost action: High

Corrosivity: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Millington Series

Drainage class: Poorly drained
Permeability: Moderate
Landform: Flood plains
Parent material: Calcareous alluvium
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, calcareous, mesic Cumulic Endoaquolls

Typical Pedon

Millington silt loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 720 feet; 800 feet north and 2,500 feet west of the southeast corner of sec. 14, T. 46 N., R. 1 E.; Winnebago County, Illinois; USGS South Beloit topographic quadrangle; lat. 42 degrees 27 minutes 27 seconds N. and long. 89 degrees 05 minutes 19 seconds W., NAD 27:

Ap—0 to 8 inches; black (10YR 2/1) silt loam containing about 15 percent sand; dark gray (10YR 4/1) dry; moderate fine granular structure; friable; many very fine and fine roots; few snail shells; slightly effervescent; slightly alkaline; abrupt smooth boundary.

A1—8 to 15 inches; black (10YR 2/1) silt loam containing about 20 percent sand; weak fine subangular blocky structure parting to moderate fine granular; friable; many very fine and fine roots; few snail shells; slightly effervescent; slightly alkaline; clear smooth boundary.

A2—15 to 26 inches; black (10YR 2/1) silt loam containing about 20 percent sand; dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to moderate fine granular; friable; many very fine and fine roots; common snail shells; strongly effervescent; moderately alkaline; clear smooth boundary.

Bg1—26 to 34 inches; variegated black (10YR 2/1) and dark grayish brown {10YR 4/2) silt loam containing about 25 percent sand; moderate fine subangular blocky structure parting to moderate fine granular; friable; common very fine and fine roots; many snail shells; strongly effervescent; moderately alkaline; clear smooth boundary.

Bg2—34 to 53 inches; dark grayish brown (2.5Y 4/2) loam; weak medium prismatic structure; friable; few very fine and fine roots; few fine prominent dark reddish brown (5YR 3/3) masses of iron accumulation in the matrix; many medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; 5 percent gravel; violently effervescent; moderately alkaline; clear smooth boundary.

Cg—53 to 60 inches; light grayish brown (2.5Y 6/2) loamy sand; single grain; loose; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 40 inches

Depth to carbonates: Less than 10 inches
Thickness of the solum: 24 to 48 inches

Ap and A horizons:
Hue—10YR, 2.5Y, or neutral
Value—2 to 3
Chroma—0 to 2
Texture—dominantly silt loam; in some pedons, loam in the lower part

Bg horizon:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—2 to 5
Chroma—0 to 2
Texture—loam, silt loam, clay loam, or silty clay loam

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—2 to 6
Chroma—0 to 2
Texture—loam, silt loam, sandy loam, or clay loam
Content of gravel—less than 15 percent

3082A—Millington silt loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have less sand and more silt in the upper and middle parts of the subsoil
- Soils that have no subsurface layer
- Soils that have more gravel in the lower part

Dissimilar soils:
- Somewhat poorly drained soils in the slightly higher positions on the flood plains
- The poorly drained, noncalcareous Sawmill soils on toeslopes

Properties and Qualities of the Millington Soil

Parent material: Calcareous alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 6.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Frequency and most likely period of flooding: Frequent, November through June

Months when flooding does not occur: July through October
Accelerated erosion: None
Potential for frost action: High
Corrosivity: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

Mokena Series

Drainage class: Somewhat poorly drained
Permeability: Moderate in the upper part of the profile, very slow in the lower part
Landform: Ground moraines and lake plains
Parent material: Thin mantle of loess or other silty material and the underlying outwash and till or lacustrine deposits
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, active, mesic Aquic Argiudolls

Typical Pedon

Mokena silt loam, 0 to 2 percent slopes; at an elevation of 636 feet; 1,980 feet south and 194 feet east of the northwest corner of sec. 7, T. 29 N., R. 12 W.; Kankakee County, Illinois; USGS Kankakee topographic quadrangle; lat. 41 degrees 00 minutes 53 seconds N. and long. 87 degrees 46 minutes 15 seconds W., NAD 27:

Ap—0 to 5 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine and fine roots throughout; neutral; clear smooth boundary.

A—5 to 12 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to weak fine and medium granular; friable; common very fine and fine roots throughout; neutral; gradual wavy boundary.

AB—12 to 15 inches; 70 percent black (10YR 2/1) and 30 percent very dark grayish brown (10YR 3/2) loam, dark gray (10YR 4/1) dry; weak fine and medium subangular blocky structure parting to weak fine and medium granular; friable; few very fine and fine roots throughout; neutral; gradual wavy boundary.

Bt1—15 to 20 inches; olive brown (2.5Y 4/3) loam; moderate medium subangular blocky structure; firm; few very fine and fine roots throughout; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common prominent black (10YR 2/1) organic coatings in root channels; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; gradual wavy boundary.

Bt2—20 to 25 inches; light olive brown (2.5Y 5/3) loam; moderate medium subangular blocky structure; firm; few very fine roots throughout; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common prominent black (10YR 2/1) organic coatings in root channels; common medium black (N 2.5/0) manganese nodules throughout; common fine faint grayish brown (2.5Y 5/2) iron depletions in the matrix; neutral; gradual wavy boundary.

Bt3—25 to 32 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium prismatic structure; firm; few very fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common medium black (N 2.5/0) manganese nodules throughout; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly alkaline; gradual smooth boundary.

Bt4—32 to 38 inches; 50 percent yellowish brown (10YR 5/4) and 50 percent dark grayish brown (2.5Y 4/2) clay loam; weak medium and coarse angular blocky structure; firm; few very fine roots throughout; few fine distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common medium black (N 2.5/0) manganese nodules throughout; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 1 percent gravel; slightly alkaline; clear smooth boundary.

2Bt5—38 to 42 inches; gray (5Y 5/1) silty clay; weak fine and medium subangular blocky structure; very firm; few very fine and fine roots throughout; few prominent dark grayish brown (2.5Y 4/2) clay films on faces of peds; common medium black (N 2.5/0) manganese nodules throughout; many medium prominent yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; 1 percent gravel; slightly effervescent; slightly alkaline; gradual wavy boundary.

2Cd—42 to 60 inches; 80 percent gray (5Y 5/1) and 20 percent yellowish brown (10YR 5/4) silty clay; massive; very firm; few fine black (N 2.5/0) manganese nodules throughout; common medium light gray (2.5Y 7/1) carbonate concretions throughout; 2 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to till or lacustrine deposits: 30 to 50 inches
Depth to carbonates: 30 to 50 inches
Thickness of the solum: 30 to 60 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam or loam

Bt horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—2 to 4
Texture—loam, clay loam, sandy clay loam, or silty clay loam

2Bt horizon:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—4 to 6
Chroma—0 to 2
Texture—silty clay or clay
Content of gravel—less than 7 percent

2Cd horizon:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—4 to 6
Chroma—0 to 4
Texture—silty clay or clay
Content of gravel—less than 10 percent

295A—Mokena silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Summits and footslopes

Map Unit Composition

Mokena and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The poorly drained Bryce soils on toeslopes

Properties and Qualities of the Mokena Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash and till or lacustrine deposits
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: 30 to 60 inches to dense material
Available water capacity: About 7.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.5 to 5.0 percent
Shrink-swell potential: High
Upper limit of perched seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Morocco Series

Drainage class: Somewhat poorly drained
Permeability: Rapid
Landform: Outwash plains and stream terraces
Parent material: Eolian deposits and/or outwash

Slope range: 0 to 2 percent
Taxonomic classification: Mixed, mesic Aquic Udipsamments

Typical Pedon

Morocco loamy fine sand, 0 to 2 percent slopes; at an elevation of 673 feet; 2,425 feet north and 1,110 feet west of the southeast corner of sec. 14, T. 30 N., R. 11 W.; Kankakee County, Illinois; Leesville topographic quadrangle; lat. 41 degrees 05 minutes 21 seconds N. and long. 87 degrees 34 minutes 00 seconds W., NAD 27:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) loamy fine sand, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; many very fine and fine roots; strongly acid; abrupt smooth boundary.

E—10 to 14 inches; brown (10YR 5/3) loamy fine sand, very pale brown (10YR 7/3) dry; moderate medium platy structure; very friable; common very fine roots; common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; strongly acid; clear smooth boundary.

Bw1—14 to 24 inches; pale brown (10YR 6/3) loamy fine sand; weak fine and medium subangular blocky structure; very friable; common very fine roots; common medium prominent strong brown (7.5YR 5/8) and common medium distinct dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; many medium faint grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid; gradual wavy boundary.

Bw2—24 to 37 inches; light yellowish brown (10YR 6/4) loamy fine sand; weak fine subangular blocky structure; very friable; common very fine roots; common fine and medium yellowish red (5YR 4/6) iron concretions throughout; common coarse prominent strong brown (7.5YR 5/8) and common fine and medium distinct dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; common fine and medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid; gradual wavy boundary.

C—37 to 47 inches; light yellowish brown (10YR 6/4) fine sand; single grain; loose; common coarse prominent strong brown (7.5YR 5/8) and common fine and medium prominent brownish yellow (10YR 6/8) masses of iron accumulation in the matrix; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid; gradual wavy boundary.

Cg—47 to 80 inches; light gray (2.5Y 7/2) fine sand; single grain; loose; common coarse prominent strong brown (7.5YR 5/8) and yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; strongly acid.

Range in Characteristics

Thickness of the solum: More than 24 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—2 to 4
Texture—loamy fine sand, fine sand, loamy sand, or sand

E horizon:
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—loamy fine sand, fine sand, loamy sand, or sand

Bw or Bg horizon:
Hue—10YR or 2.5Y
Value—4 to 7

Chroma—1 to 8
Texture—loamy fine sand, loamy sand, fine sand, or sand
Content of gravel—less than 5 percent

C and Cg horizons:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—1 to 4
Texture—fine sand or sand
Content of gravel—less than 7 percent

501A—Morocco loamy fine sand, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Footslopes and summits

Map Unit Composition

Morocco and similar soils: 94 percent
Dissimilar soils: 6 percent

Minor Components

Similar soils:
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have more clay in the upper part of the subsoil
- Soils that have a darker surface layer

Dissimilar soils:
- The excessively drained Oakville soils on summits and backslopes
- The poorly drained Granby soils on toeslopes

Properties and Qualities of the Morocco Soil

Parent material: Eolian deposits and/or outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.5 percent
Shrink-swell potential: Low
Upper limit of apparent seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Low for steel and high for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 4s

Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Oakville Series

Drainage class: Excessively drained
Permeability: Rapid
Landform: Outwash plains
Parent material: Eolian deposits
Slope range: 1 to 30 percent
Taxonomic classification: Mixed, mesic Typic Udipsamments

Typical Pedon

Oakville fine sand, 1 to 6 percent slopes; at an elevation of 660 feet; 1,840 feet south and 40 feet east of the northwest corner of sec. 24, T. 30 N., R. 12 W.; Kankakee County, Illinois; USGS St. Anne topographic quadrangle; lat. 41 degrees 04 minutes 27 seconds N. and long. 87 degrees 40 minutes 30 seconds W., NAD 27:

A—0 to 3 inches; very dark grayish brown (10YR 3/2) fine sand, grayish brown (10YR 5/2) dry; weak fine granular structure; very friable; common fine and very fine roots; very strongly acid; clear smooth boundary.
BE—3 to 7 inches; brown (10YR 4/3) fine sand; weak fine granular structure; very friable; common fine roots; very strongly acid; clear smooth boundary.
Bw—7 to 40 inches; yellowish brown (10YR 5/6) fine sand; weak medium and coarse subangular blocky structure; very friable; few fine and very fine roots; very strongly acid; clear smooth boundary.
C—40 to 65 inches; 60 percent light yellowish brown (10YR 6/4) and 40 percent very pale brown (10YR 7/4) fine sand; single grain; loose; strongly acid.

Range in Characteristics

Thickness of the solum: 18 to 65 inches

A or Ap horizon:
Hue—10YR
Value—2 to 4
Chroma—1 to 4
Texture—fine sand, sand, loamy fine sand, or loamy sand

BE horizon:
Hue—7.5YR or 10YR
Value—4
Chroma—3 or 4
Texture—fine sand, sand, loamy fine sand, or loamy sand

Bw horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 8
Texture—fine sand or loamy fine sand

C horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 to 6
Texture—fine sand, loamy fine sand, sand, or loamy sand

741B—Oakville fine sand, 1 to 6 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Summits and backslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have a thicker, darker surface layer
- Soils that have more clay and less sand in the lower part
- Soils that have slopes of less than 1 percent or more than 6 percent

Dissimilar soils:
- The somewhat poorly drained Morocco soils on summits and footslopes
- The poorly drained Granby soils on toeslopes

Properties and Qualities of the Oakville Soil

Parent material: Eolian deposits
Drainage class: Excessively drained
Slowest permeability within a depth of 40 inches: Rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Low
Corrosivity: Low for steel and high for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Very high

Interpretive Groups

Land capability classification: 4s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

741D—Oakville fine sand, 6 to 12 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Backslopes

Map Unit Composition

Oakville and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that are moderately eroded
- Soils that have more clay and less sand in the lower part
- Soils that have slopes of less than 6 percent or more than 12 percent

Dissimilar soils:
- The somewhat poorly drained Morocco soils on summits and footslopes

Properties and Qualities of the Oakville Soil

Parent material: Eolian deposits
Drainage class: Excessively drained
Slowest permeability within a depth of 40 inches: Rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Low
Corrosivity: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Very high

Interpretive Groups

Land capability classification: 6s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

741E—Oakville fine sand, 12 to 20 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Backslopes

Map Unit Composition

Oakville and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that are moderately eroded
- Soils that have more clay and less sand in the lower part
- Soils that have slopes of less than 12 percent or more than 20 percent

Dissimilar soils:
- The somewhat poorly drained Morocco soils on summits and footslopes

Properties and Qualities of the Oakville Soil

Parent material: Eolian deposits
Drainage class: Excessively drained

Slowest permeability within a depth of 40 inches: Rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Low
Corrosivity: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Very high

Interpretive Groups

Land capability classification: 6s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

741F—Oakville fine sand, 20 to 30 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Backslopes

Map Unit Composition

Oakville and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that are moderately eroded
- Soils that have more clay and less sand in the lower part
- Soils that have slopes of less than 20 percent or more than 30 percent

Dissimilar soils:
- The somewhat poorly drained Morocco soils on summits and footslopes

Properties and Qualities of the Oakville Soil

Parent material: Eolian deposits
Drainage class: Excessively drained
Slowest permeability within a depth of 40 inches: Rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Low
Corrosivity: Low for steel and high for concrete
Surface runoff class: Low

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Very high

Interpretive Groups

Land capability classification: 7s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Onarga Series

Drainage class: Well drained
Permeability: Moderate in the upper part of the profile, moderately rapid or rapid in the lower part
Landform: Stream terraces and outwash plains
Parent material: Eolian deposits and/or outwash
Slope range: 0 to 5 percent
Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Typic Argiudolls

Typical Pedon

Onarga fine sandy loam, 2 to 5 percent slopes; at an elevation of 666 feet; 2,032 feet south and 33 feet west of the northeast corner of sec. 17, T. 26 N., R. 10 E.; Iroquois County, Illinois; USGS Onarga West topographic quadrangle; lat. 40 degrees 43 minutes 45 seconds N. and long. 88 degrees 05 minutes 12 seconds W., NAD 27:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) fine sandy loam, dark grayish brown (10YR 4/2) dry; weak very fine granular structure; very friable; moderately acid; abrupt smooth boundary.
A—8 to 13 inches; very dark grayish brown (10YR 3/2) fine sandy loam, dark grayish brown (10YR 4/2) dry; weak fine granular structure; very friable; many fine roots; moderately acid; clear smooth boundary.
Bt1—13 to 23 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine prismatic structure parting to weak fine subangular blocky; friable; common fine roots; many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; strongly acid; clear wavy boundary.
Bt2—23 to 29 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium prismatic structure parting to weak fine subangular blocky; very friable; few fine roots; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; very strongly acid; gradual smooth boundary.
BC—29 to 33 inches; brownish yellow (10YR 6/6) loamy fine sand; weak medium subangular blocky structure; very friable; few fine roots; strongly acid; clear wavy boundary.
C—33 to 60 inches; yellowish brown (10YR 5/6) and light yellowish brown (10YR 6/4), stratified loamy fine sand and fine sand; single grain; loose; slightly acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the solum: 27 to 50 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—fine sandy loam or sandy loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—fine sandy loam, loam, or sandy loam

C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 6
Texture—stratified loamy fine sand, fine sand, fine sandy loam, loamy sand, sand, or sandy loam

150A—Onarga fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Footslopes and summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have slopes of more than 2 percent
- Soils that have more clay in the upper one-half of the profile
- Soils that have gravel in the lower part
- Soils that have a seasonal high water table at a depth of less than 6 feet

Dissimilar soils:
- The somewhat poorly drained Ridgeville soils on summits and footslopes
- The poorly drained Gilford soils on toeslopes

Properties and Qualities of the Onarga Soil

Parent material: Eolian deposits and/or outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2s

Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

150B—Onarga fine sandy loam, 2 to 5 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Summits and backslopes

Map Unit Composition

Onarga and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 2 percent
- Soils that are moderately eroded
- Soils that have more clay in the upper one-half of the profile
- Soils that have gravel in the lower part
- Soils that have a seasonal high water table at a depth of less than 6 feet

Dissimilar soils:
- The somewhat poorly drained Ridgeville soils on summits and footslopes
- The poorly drained Gilford soils on toeslopes

Properties and Qualities of the Onarga Soil

Parent material: Eolian deposits and/or outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

802B—Orthents, loamy, undulating

These soils are in areas of disturbed soil material. They are fine-loamy, mixed, active, nonacid, mesic Oxyaquic Udorthents. The surface layer is very dark grayish brown, friable silt loam about 6 inches thick. The upper part of the underlying material is brown and dark yellowish brown, firm clay loam and silty clay loam. The lower part to a depth of 60 inches is mottled yellowish brown and brown, firm loam.

Setting

Landform: Areas of leveled land and fill on outwash plains and ground moraines
Position on the landform: Summits and backslopes

Map Unit Composition

Orthents, loamy, and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have more silt and less sand
- Soils that have more gravel in the lower one-half of the profile
- Soils that have a seasonal high water table at a depth of less than 3.5 feet
- Soils that have more sand and less clay
- Soils that have slopes of less than 1 percent or more than 6 percent

Dissimilar soils:
- The poorly drained Pella soils on toeslopes
- The poorly drained Drummer soils on toeslopes

Properties and Qualities of the Loamy Orthents

Parent material: Earthy fill
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 3.5 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

802F—Orthents, loamy, hilly

These soils are in areas of disturbed soil material. They are fine-loamy, mixed, active, nonacid, mesic Oxyaquic Udorthents. The surface layer is very dark grayish brown, friable silt loam about 6 inches thick. The upper part of the underlying material is brown and dark yellowish brown, firm clay loam and silty clay loam. The lower part to a depth of 60 inches is mottled yellowish brown and brown, firm loam.

Setting

Landform: Areas of fill on outwash plains and ground moraines
Position on the landform: Backslopes

Map Unit Composition

Orthents, loamy, and similar soils: 100 percent

Minor Components

Similar soils:
- Soils that have more silt and less sand
- Soils that have more gravel in the lower one-half of the profile
- Soils that have a seasonal high water table at a depth of less than 3.5 feet
- Soils that have more sand and less clay
- Soils that have slopes of less than 12 percent or more than 30 percent

Properties and Qualities of the Loamy Orthents

Parent material: Earthy fill
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 3.5 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

805B—Orthents, clayey, undulating

These soils are in areas of disturbed soil material. They are fine, mixed, active, nonacid, mesic Aquic Udorthents. The surface layer is very dark gray, firm silty clay about 6 inches thick. The upper part of the underlying material is brown and yellowish brown, firm silty clay. The lower part to a depth of 60 inches is mottled olive brown, light olive brown, and grayish brown, firm silty clay and silty clay loam.

Setting

Landform: Areas of leveled land and fill on ground moraines and lake plains
Position on the landform: Backslopes and summits

Map Unit Composition

Orthents, clayey, and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have more sand and less clay
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have carbonates at or near the surface

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes
- The very poorly drained Houghton soils on toeslopes
- The very poorly drained Peotone soils on toeslopes

Properties and Qualities of the Clayey Orthents

Parent material: Earthy fill
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Very slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 4.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderate

Interpretive Groups

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

Ozaukee Series

Drainage class: Moderately well drained
Permeability: Slow
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying till
Slope range: 2 to 30 percent
Taxonomic classification: Fine, illitic, mesic Oxyaquic Hapludalfs

Typical Pedon

Ozaukee silt loam, 2 to 4 percent slopes; at an elevation of 780 feet; 2,540 feet north and 2,200 feet east of the southwest corner of sec. 31, T. 39 N., R. 10 E.; Du Page County, Illinois; USGS Naperville topographic quadrangle; lat. 41 degrees 49 minutes 14 seconds N. and long. 88 degrees 08 minutes 18 seconds W., NAD 27:

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, yellowish brown (10YR 5/4) dry; moderate very fine and fine granular structure; friable; many very fine and fine roots; neutral; clear smooth boundary.

BE—4 to 10 inches; brown (10YR 4/3) silt loam; weak thick platy structure parting to moderate fine subangular blocky; friable; many very fine roots; few distinct dark grayish brown (10YR 4/2) coatings on faces of peds; moderately acid; clear smooth boundary.

2Bt1—10 to 16 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; many distinct brown (10YR 4/3) clay films on faces of peds; 1 percent gravel; slightly acid; abrupt smooth boundary.

2Bt2—16 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films and brown (10YR 4/3) clay films on faces of peds; common fine strong brown (7.5YR 5/8) very weakly cemented iron oxide concretions throughout; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 5 percent gravel; neutral; clear smooth boundary.

2Bt3—21 to 27 inches; light olive brown (2.5Y 5/3) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine strong brown (7.5YR 5/8) very weakly cemented iron oxide concretions throughout; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 8 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

2Bt4—27 to 33 inches; light olive brown (2.5Y 5/3) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine strong brown (7.5YR 5/8) very weakly cemented iron oxide concretions throughout; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concentrations throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 8 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.

2BCt—33 to 39 inches; light olive brown (2.5Y 5/3) silty clay loam; weak fine and medium subangular blocky structure; firm; common very fine roots; few distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine strong brown (7.5YR 5/8) very weakly cemented iron oxide concretions throughout; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concentrations throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 6 percent gravel; strongly effervescent; moderately alkaline; abrupt smooth boundary.

2Cd—39 to 60 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; few very fine roots; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; many medium white (10YR 8/1) carbonate concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 6 percent gravel; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess or other silty material: Less than 18 inches
Depth to carbonates: 15 to 40 inches
Thickness of the solum: 20 to 45 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—1 to 3
Texture—silt loam or silty clay loam

E horizon (if it occurs):
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam

2Bt horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 or 4
Texture—silty clay loam, silty clay, or clay
Content of gravel—1 to 10 percent

2Cd horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—2 to 4
Texture—silty clay loam or clay loam
Content of gravel—3 to 15 percent

530B—Ozaukee silt loam, 2 to 4 percent slopes

Setting

Landform: End moraines and ground moraines
Position on the landform: Backslopes and summits

Map Unit Composition

Ozaukee and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that are moderately eroded
- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have more sand and less silt in the lower part

Dissimilar soils:
- Moderately well drained, clayey Orthents on summits and backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

530C2—Ozaukee silt loam, 4 to 6 percent slopes, eroded

Setting

Landform: End moraines and ground moraines
Position on the landform: Backslopes and shoulders

Map Unit Composition

Ozaukee and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have more sand and less silt in the lower part
- Soils that are severely eroded

Dissimilar soils:
- The nearly level, somewhat poorly drained Beecher soils on summits and footslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow

Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 7.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Corrosivity: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

530C3—Ozaukee silty clay loam, 4 to 6 percent slopes, severely eroded

Setting

Landform: End moraines and ground moraines
Position on the landform: Backslopes and shoulders

Map Unit Composition

Ozaukee and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have more sand and less silt in the lower part
- Soils that are moderately eroded

Dissimilar soils:
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 6.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate

Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Corrosivity: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

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

530D2—Ozaukee silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Ozaukee and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have more sand and less silt in the lower part
- Soils that are severely eroded

Dissimilar soils:
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 7.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate

Corrosivity: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

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

530D3—Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes

Map Unit Composition

Ozaukee and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have more sand and less silt in the lower part
- Soils that are moderately eroded

Dissimilar soils:
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 6.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 1.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Corrosivity: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

530E2—Ozaukee silt loam, 12 to 20 percent slopes, eroded

Setting

Landform: End moraines and ground moraines
Position on the landform: Backslopes

Map Unit Composition

Ozaukee and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 12 percent or more than 20 percent
- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have more sand and less silt in the lower part
- Soils that are severely eroded

Dissimilar soils:
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Corrosivity: High for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

530F—Ozaukee silt loam, 20 to 30 percent slopes

Setting

Landform: End moraines and ground moraines
Position on the landform: Backslopes

Map Unit Composition

Ozaukee and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 20 percent or more than 30 percent
- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have more sand and less silt in the lower part
- Soils that are moderately eroded or severely eroded

Dissimilar soils:
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Ozaukee Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 20 to 45 inches to dense material
Available water capacity: About 7.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and low for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Pella Series

Drainage class: Poorly drained
Permeability: Moderate
Landform: Outwash plains, lake plains, and ground moraines
Parent material: Loess or other silty material and the underlying outwash

Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Pella silty clay loam, 0 to 2 percent slopes; at an elevation of 658 feet; 190 feet north and 2,225 feet west of the southeast corner of sec. 14, T. 27 N., R. 9 E.; Ford County, Illinois; USGS Piper City topographic quadrangle; lat. 40 degrees 48 minutes 25 seconds N. and long. 88 degrees 09 minutes 14 seconds W., NAD 27:

Ap—0 to 7 inches; black (N 2.5/0) silty clay loam, dark gray (N 4/0) dry; moderate very fine and fine granular structure; friable; slightly acid; abrupt smooth boundary.

A—7 to 12 inches; black (N 2.5/0) silty clay loam, dark gray (N 4/0) dry; moderate fine and very fine granular structure; friable; neutral; clear smooth boundary.

Bg1—12 to 20 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine and medium prismatic structure parting to moderate fine and very fine angular blocky; friable; few fine distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

Bg2—20 to 27 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine and medium prismatic structure parting to moderate fine and medium angular blocky; friable; common medium distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline; clear smooth boundary.

Bg3—27 to 33 inches; gray (5Y 6/1) silty clay loam; weak medium prismatic structure parting to moderate medium angular blocky; friable; few very dark gray (10YR 3/1) krotovinas; many medium prominent light olive brown (2.5Y 5/4) and common fine prominent dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline; gradual wavy boundary.

2BCg—33 to 42 inches; gray (5Y 6/1) silt loam with a high content of sand; weak medium prismatic structure; friable; moderate medium prominent light olive brown (2.5Y 5/4) and yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly effervescent; moderately alkaline; gradual wavy boundary.

2Cg—42 to 60 inches; gray (5Y 6/1), stratified silt loam, loam, and sandy loam; massive; friable; many medium prominent light olive brown (2.5Y 5/4) and yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Thickness of the loess or other silty material: 20 to 40 inches
Depth to carbonates: 16 to 40 inches
Thickness of the solum: 30 to 50 inches

Ap and A horizons:
Hue—10YR, 2.5Y, or neutral
Value—2 to 3
Chroma—0 to 2
Texture—silty clay loam or silt loam

Bg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam

2Bg or 2BCg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—5 or 6

Chroma—1 to 6
Texture—silt loam, sandy loam, silty clay loam, or clay loam
Content of gravel—1 to 10 percent

2Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—5 or 6
Chroma—1 to 8
Texture—stratified loamy sand to silty clay loam
Content of gravel—less than 15 percent

153A—Pella silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines, lake plains, and outwash plains
Position on the landform: Toeslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have outwash at a depth of less than 20 inches or more than 40 inches
- Soils that have more gravel in the lower part
- Soils that have till in the lower part
- Soils that have a thicker surface soil and are darker colored in the upper part of the subsoil

Dissimilar soils:
- The somewhat poorly drained Brenton soils on summits and footslopes
- The poorly drained, calcareous Harpster soils on toeslopes
- The very poorly drained Houghton soils on toeslopes

Properties and Qualities of the Pella Soil

Parent material: Loess or other silty material and the underlying outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 6.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Flooding: None
Accelerated erosion: Negligible
Potential for frost action: High
Corrosivity: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Peotone Series

Drainage class: Very poorly drained
Permeability: Moderately slow
Landform: Ground moraines
Parent material: Colluvium
Slope range: 0 to 2 percent
Taxonomic classification: Fine, smectitic, mesic Cumulic Vertic Endoaquolls

Typical Pedon

Peotone silty clay loam, 0 to 2 percent slopes; at an elevation of 707 feet; 315 feet south and 2,233 feet east of the northwest corner of sec. 21, T. 29 N., R. 9 E.; Ford County, Illinois; USGS Cabery topographic quadrangle; lat. 40 degrees 58 minutes 49 seconds N. and long. 88 degrees 12 minutes 00 seconds W., NAD 27:

Ap—0 to 7 inches; black (N 2.5/0) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.
A—7 to 13 inches; black (N 2.5/0) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.
Bg1—13 to 27 inches; black (N 2.5/0) silty clay loam, dark gray (10YR 4/1) dry; moderate medium angular blocky structure; friable; common very fine roots; neutral; clear smooth boundary.
Bg2—27 to 41 inches; dark gray (10YR 4/1) silty clay; moderate fine prismatic structure; firm; common very fine roots; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; slightly alkaline; clear smooth boundary.
Bg3—41 to 50 inches; dark gray (10YR 4/1) silty clay; moderate medium prismatic structure; firm; few very fine roots; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix; slightly alkaline; clear smooth boundary.
Cg—50 to 60 inches; dark gray (10YR 4/1) silty clay loam; massive; firm; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches
Depth to carbonates: More than 28 inches
Thickness of the solum: 38 to 60 inches

Ap and A horizons:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—2 to 3
Chroma—0 or 1
Texture—silty clay loam

Bg horizon:
Hue—10YR, 2.5Y, 5Y, or neutral

Value—2 to 6
Chroma—0 to 2
Texture—silty clay loam or silty clay

Cg horizon:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam, silt loam, or silty clay

330A—Peotone silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines
Position on the landform: Toeslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that are overlain by recent light-colored deposits
- Soils that have less clay in the subsurface layer and subsoil
- Soils that are lighter colored in the upper one-half of the subsoil

Dissimilar soils:
- The somewhat poorly drained Elliott soils on summits and footslopes
- The very poorly drained, mucky Houghton soils on toeslopes

Properties and Qualities of the Peotone Soil

Parent material: Colluvium
Drainage class: Very poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 5.0 to 7.0 percent
Shrink-swell potential: High
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through June
Flooding: None
Accelerated erosion: None
Potential for frost action: High
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

864—Pits, quarry

This map unit is in nearly level to gently sloping areas from which limestone has been extracted. The pits have nearly vertical sidewalls. Some pits are active, and others have been abandoned. Some contain water. Some of the larger abandoned pits are used as recreational areas.

Map Unit Composition

Pits, quarry: 92 percent
Dissimilar components: 8 percent

Minor Components

Dissimilar components:
- Well drained, loamy Orthents on summits and backslopes
- The poorly drained Faxon soils on toeslopes
- Bodies of water

Interpretive Groups

Land capability classification: None assigned
Prime farmland status: Not prime farmland
Hydric soil status: Unranked

865—Pits, gravel

This map unit is in nearly level to gently sloping areas from which gravel has been extracted. The pits have nearly vertical sidewalls. Some pits are active, and others have been abandoned. Some contain water. Some of the larger abandoned pits are used as recreational areas.

Map Unit Composition

Pits, gravel: 92 percent
Dissimilar components: 8 percent

Minor Components

Dissimilar components:
- Well drained, loamy Orthents on summits and backslopes
- The poorly drained Dunham soils on toeslopes
- Bodies of water

Interpretive Groups

Land capability classification: None assigned
Prime farmland status: Not prime farmland
Hydric soil status: Unranked

Plattville Series

Drainage class: Well drained
Permeability: Moderate
Landform: Outwash plains and ground moraines
Parent material: Drift over dolostone
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, active, mesic Typic Argiudolls

Typical Pedon

Plattville silt loam, 0 to 2 percent slopes; at an elevation of 625 feet; 100 feet east of the center of sec. 24, T. 31 N., R. 13 E.; Kankakee County, Illinois; USGS Momence, Illinois, topographic quadrangle; lat. 41 degrees 09 minutes 24 seconds N. and long. 87 degrees 40 minutes 19 seconds W., NAD 27:

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

A—10 to 14 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak very fine and fine granular structure; friable; many fine and very fine roots; slightly acid; clear smooth boundary.

Bt1—14 to 19 inches; dark yellowish brown (10YR 4/4) loam; weak very fine subangular blocky structure; friable; common very fine and fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; clear smooth boundary.

Bt2—19 to 27 inches; dark yellowish brown (10YR 4/4) clay loam; weak fine and medium subangular blocky structure; friable; common very fine and medium roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; few distinct very dark gray (10YR 3/1) organic coatings in root channels; few fine prominent yellowish red (5YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; moderately acid; clear smooth boundary.

Bt3—27 to 31 inches; brown (7.5YR 4/4) sandy clay loam; moderate fine and medium subangular blocky structure; friable; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; few fine prominent yellowish red (5YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; moderately acid; clear smooth boundary.

Bt4—31 to 39 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; friable; few very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds and in pores; common distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds; few fine prominent yellowish red (5YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel and 2 percent cobbles; moderately acid; abrupt smooth boundary.

BCt—39 to 44 inches; dark yellowish brown (10YR 4/4) clay loam; weak coarse subangular blocky structure; firm; few very fine roots; common distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds; common prominent yellowish red (5YR 4/6) decomposed stones; 8 percent gravel and 3 percent cobbles; neutral; abrupt smooth boundary.

R—44 inches; very pale brown (10YR 7/4) limestone bedrock that is decomposed in the upper $^{1}/_{2}$ inch.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to lithic contact: 40 to 60 inches
Thickness of the solum: 40 to 60 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam or loam

Bt horizon:
Hue—7.5YR or 10YR

Value—4 or 5
Chroma—3 or 4
Texture—loam, clay loam, sandy clay loam, silty clay loam, or silt loam
Content of gravel—less than 7 percent
Content of cobbles—less than 3 percent

BC horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 or 4
Texture—loam, clay loam, or sandy clay loam
Content of gravel—less than 10 percent
Content of cobbles—less than 5 percent

240A—Plattville silt loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and ground moraines
Position on the landform: Backslopes and summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have bedrock at a depth of less than 40 inches or more than 60 inches
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have less sand and more clay in the subsoil
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The poorly drained Tallmadge soils on toeslopes

Properties and Qualities of the Plattville Soil

Parent material: Drift over dolostone
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1

Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Reddick Series

Drainage class: Poorly drained
Permeability: Moderate in the upper part of the profile, slow in the lower part
Landform: Ground moraines and lake plains
Parent material: Outwash and the underlying till or lacustrine deposits
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Reddick clay loam, 0 to 2 percent slopes; at an elevation of 657 feet; 2,616 feet south and 27 feet east of the northwest corner of sec. 34, T. 30 N., R. 9 E.; Kankakee County, Illinois; USGS Buckingham topographic quadrangle; lat. 41 degrees 02 minutes 02 seconds N. and long. 88 degrees 11 minutes 24 seconds W., NAD 27:

Ap—0 to 10 inches; black (10YR 2/1) clay loam, dark gray (10YR 4/1) dry; moderate fine and very fine granular structure; friable; slightly alkaline; abrupt smooth boundary.

A—10 to 13 inches; very dark gray (10YR 3/1) clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; slightly alkaline; clear smooth boundary.

Bg—13 to 19 inches; dark gray (10YR 4/1) clay loam; weak fine prismatic structure parting to moderate very fine subangular blocky; firm; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Btg1—19 to 25 inches; gray (5Y 5/1) clay loam; moderate medium prismatic structure parting to moderate fine subangular blocky; firm; common faint dark gray (10YR 4/1) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; many medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; slightly alkaline; clear smooth boundary.

Btg2—25 to 32 inches; gray (10YR 5/1) clay loam; moderate medium prismatic structure parting to moderate fine subangular blocky; firm; few faint dark gray (10YR 4/1) clay films faces of peds; many fine and medium prominent light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; 2 percent gravel; slightly alkaline; abrupt smooth boundary.

2Btg3—32 to 47 inches; gray (5Y 6/1) silty clay loam; moderate medium prismatic structure parting to weak medium and coarse subangular blocky; firm; few faint gray (5Y 5/1) clay films on vertical faces of peds; many medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; common medium faint light gray (5Y 7/1) iron depletions in the matrix; 3 percent gravel; slightly effervescent; moderately alkaline; gradual wavy boundary.

2Cg—47 to 60 inches; 70 percent gray (5Y 6/1) and 30 percent light gray (5Y 7/1) silty clay loam; many medium prominent yellowish brown (10YR 5/6 and 5/8) masses of iron accumulation in the matrix; massive; firm; 4 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to till or lacustrine deposits: 30 to 50 inches
Depth to carbonates: 24 to 53 inches
Thickness of the solum: 35 to 55 inches

Ap and A horizons:
Hue—10YR or neutral
Value—2 or 3
Chroma—0 to 2
Texture—loam, clay loam, or silty clay loam

Bg and Btg horizons:
Hue—2.5Y or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—clay loam, silty clay loam, or loam
Content of gravel—less than 5 percent

2Bg or 2Btg horizon:
Hue—2.5Y or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or silty clay
Content of gravel—less than 10 percent

2Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam or silty clay
Content of gravel—less than 15 percent

594A—Reddick clay loam, 0 to 2 percent slopes

Setting

Landform: Lake plains and ground moraines
Position on the landform: Toeslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have a thicker surface soil and are darker colored in the upper part of the subsoil
- Soils that have less sand and more silt in the upper part
- Soils that have less clay in the lower part
- Soils that are overlain by recent light-colored deposits

Dissimilar soils:
- The somewhat poorly drained Andres soils on summits and footslopes

Properties and Qualities of the Reddick Soil

Parent material: Outwash and the underlying till or lacustrine deposits
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.8 inches to a depth of 60 inches

Content of organic matter in the surface layer: 4.0 to 6.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Flooding: None
Accelerated erosion: Negligible
Potential for frost action: High
Corrosivity: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Rensselaer Series

Drainage class: Poorly drained
Permeability: Moderate
Landform: Outwash plains and stream terraces
Parent material: Outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Argiaquolls

Typical Pedon

Rensselaer sandy loam, 0 to 2 percent slopes; at an elevation of 635 feet; 2,500 feet north and 110 feet west of the southeast corner of sec. 31, T. 32 N., R. 15 E.; Kankakee County, Illinois; USGS Illiana Heights topographic quadrangle; lat. 41 degrees 12 minutes 58 seconds N. and long. 87 degrees 31 minutes 36 seconds W., NAD 27:

Ap—0 to 7 inches; black (10YR 2/1) sandy loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; common very fine and fine roots; 1 percent gravel; neutral; clear smooth boundary.

A—7 to 15 inches; black (10YR 2/1) clay loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; common very fine roots; 1 percent gravel; neutral; clear smooth boundary.

Btg1—15 to 19 inches; dark grayish brown (2.5Y 4/2) clay loam; moderate fine subangular blocky structure; friable; few very fine roots; common distinct very dark gray (2.5Y 3/1) organic coatings on faces of peds and in pores; common distinct dark gray (2.5Y 4/1) clay films on faces of peds; common fine and medium prominent dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; 1 percent gravel; neutral; clear wavy boundary.

Btg2—19 to 31 inches; gray (2.5Y 5/1) sandy clay loam; moderate fine and medium prismatic structure parting to moderate fine and medium subangular blocky; friable; few very fine roots; few distinct very dark gray (2.5Y 3/1) organic coatings on faces of peds and in pores; few distinct dark gray (2.5Y 4/1) clay films on faces of peds; common fine and medium prominent yellowish brown (10YR 5/6 and 5/8) masses of iron accumulation in the matrix; 1 percent gravel; neutral; clear wavy boundary.

Btg3—31 to 40 inches; grayish brown (2.5Y 5/2) clay loam; weak medium subangular blocky structure; friable; few very fine roots; few distinct very dark gray (2.5Y 3/1) organic coatings on faces of peds and in pores; few distinct dark gray (5Y 4/1) clay films on faces of peds; common fine prominent strong brown (7.5YR 4/6) and common fine and medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; 2 percent gravel; neutral; clear smooth boundary.

2Cg1—40 to 46 inches; 80 percent grayish brown (2.5Y 5/2) and 20 percent very dark gray (2.5Y 3/1), stratified sandy loam and loamy sand; massive; very friable; few very fine roots; common fine and medium prominent yellowish brown (10YR 5/8) and strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; 1 percent gravel; slightly alkaline; clear smooth boundary.

2Cg2—46 to 53 inches; gray (2.5Y 5/1) sandy loam; massive; friable; common medium prominent strong brown (7.5YR 4/6) and light yellowish brown (10YR 6/4) masses of iron accumulation in the matrix; 1 percent gravel; slightly alkaline; clear wavy boundary.

2Cg3—53 to 80 inches; 60 percent grayish brown (2.5Y 5/2) and 40 percent light olive brown (2.5Y 5/3), stratified loamy sand and sand; single grain; loose; many coarse prominent light yellowish brown (10YR 6/4) and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to carbonates: More than 30 inches
Thickness of the solum: 40 to 60 inches

Ap and A horizons:
Hue—10YR or neutral
Value—2 to 3
Chroma—0 to 2
Texture—sandy loam, loam, or clay loam

Btg horizon:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—4 to 6
Chroma—0 to 2
Texture—loam, clay loam, sandy clay loam, silt loam, or sandy loam
Content of gravel—less than 5 percent

2Cg or 2C horizon:
Hue—10YR, 2.5Y, or neutral
Value—4 to 6
Chroma—0 to 3
Texture—stratified sandy loam, loamy sand, loam, silt loam, or sand
Content of gravel—less than 10 percent

664A—Rensselaer sandy loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Toeslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have more gravel in the lower part
- Soils that have less sand and more silt in the upper two-thirds of the profile
- Soils that are flooded for brief periods
- Soils that have less clay and more sand in the upper one-half of the profile

Dissimilar soils:
- The somewhat poorly drained La Hogue soils on summits and footslopes

Properties and Qualities of the Rensselaer Soil

Parent material: Outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Flooding: None
Accelerated erosion: Negligible
Potential for frost action: High
Corrosivity: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Ridgeville Series

Drainage class: Somewhat poorly drained
Permeability: Moderate in the upper part of the profile, moderately rapid or rapid in the lower part
Landform: Stream terraces and outwash plains
Parent material: Eolian deposits and/or outwash
Slope range: 0 to 2 percent
Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Aquic Argiudolls

Typical Pedon

Ridgeville fine sandy loam, 0 to 2 percent slopes; at an elevation of 653 feet; 2,084 feet south and 30 feet east of the northwest corner of sec. 19, T. 26 N., R. 12 W.; Iroquois County, Illinois; USGS Woodworth topographic quadrangle; lat. 40 degrees 43 minutes 24 seconds N. and long. 87 degrees 45 minutes 54 seconds W., NAD 27:

Ap—0 to 8 inches; very dark brown (10YR 2/2) fine sandy loam, dark grayish brown (10YR 4/2) dry; weak fine and medium granular structure; very friable; slightly acid; gradual smooth boundary.

A—8 to 16 inches; very dark gray (10YR 3/1) fine sandy loam, dark grayish brown (10YR 4/2) dry; weak fine and medium granular structure; very friable; moderately acid; clear wavy boundary.
BA—16 to 25 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak medium granular structure in the upper 4 inches grading to weak very fine and fine subangular blocky in the lower part; friable; common fine faint brown (10YR 5/3) masses of iron accumulation and dark gray (10YR 4/1) iron depletions in the matrix; moderately acid; clear smooth boundary.
Bt1—25 to 32 inches; grayish brown (10YR 5/2) sandy clay loam; moderate fine and medium subangular blocky structure; firm; few distinct gray (10YR 5/1) clay films on faces of peds; few fine dark brown (7.5YR 3/2) iron and manganese oxide concretions throughout; many fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.
Bt2—32 to 40 inches; grayish brown (10YR 5/2) fine sandy loam; weak medium subangular blocky structure; friable; common distinct gray (10YR 5/1) clay films on faces of peds; many fine dark brown (7.5YR 3/2) iron and manganese oxide concretions throughout; many medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; slightly acid; clear wavy boundary.
BC—40 to 47 inches; yellowish brown (10YR 5/8) loamy fine sand; weak medium subangular blocky structure; very friable; few fine dark brown (7.5YR 3/2) iron and manganese oxide concretions throughout; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; neutral; clear wavy boundary.
Cg—47 to 60 inches; light brownish gray (10YR 6/2) fine sand; single grain; loose; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 18 inches
Thickness of the solum: 35 to 55 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—fine sandy loam or loam

Bt horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—sandy loam, loam, sandy clay loam, or fine sandy loam

Cg or C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 8
Texture—fine sand, sand, loamy sand, or fine sandy loam
Content of gravel—less than 7 percent

151A—Ridgeville fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Summits and footslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have less clay in the upper one-half of the profile
- Soils that have sandy and gravelly outwash in the lower part
- Soils that have slopes of more than 2 percent
- Soils that have deposits of bog iron

Dissimilar soils:
- The well drained Onarga soils on backslopes and summits
- The poorly drained Gilford soils on toeslopes

Properties and Qualities of the Ridgeville Soil

Parent material: Eolian deposits and/or outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Low
Upper limit of apparent seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2s
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Ritchey Series

Drainage class: Well drained
Permeability: Moderate in the upper part of the profile, moderately slow or slow in the lower part
Landform: Strath terraces
Parent material: Till over dolostone
Slope range: 2 to 12 percent
Taxonomic classification: Loamy, mixed, superactive, mesic Lithic Hapludalfs

Typical Pedon

Ritchey silt loam, 6 to 12 percent slopes; at an elevation of 590 feet; 1,160 feet north and 3,340 feet east of the southwest corner of sec. 32, T. 32 N., R. 11 E.; Kankakee

County, Illinois; USGS Bourbonnais topographic quadrangle; lat. 41 degrees 12 minutes 31 seconds N. and long. 87 degrees 58 minutes 50 seconds W., NAD 27:

A—0 to 4 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 fine roots; 1 percent gravel; neutral; clear smooth boundary.

E—4 to 8 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; weak thin platy structure; friable; common very fine roots; many prominent dark grayish brown (10YR 3/2) organic coatings on faces of peds; 2 percent gravel; slightly alkaline; clear smooth boundary.

Bt—8 to 16 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; common very fine and fine roots; common prominent very dark grayish brown (10YR 3/2) organic coatings on faces of peds; many faint brown (10YR 4/3) clay films on faces of peds and in pores; common fine faint brown (7.5YR 4/4) weakly cemented iron oxide concretions; few fine prominent black (7.5YR 2.5/1) weakly cemented manganese oxide concretions; 4 percent gravel; slightly alkaline; abrupt smooth boundary.

2R—16 inches; yellow (10YR 8/6), unweathered dolostone bedrock; slightly effervescent.

Range in Characteristics

Depth to lithic contact: 10 to 20 inches
Thickness of the solum: 10 to 20 inches

A or Ap horizon:
Hue—10YR
Value—2 to 4
Chroma—2 or 3
Texture—silt loam or loam

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

Bt horizon:
Hue—5YR, 7.5YR, or 10YR
Value—4 to 6
Chroma—3 to 5
Texture—loam, clay loam, silt loam, or silty clay loam
Content of gravel—1 to 10 percent

311B—Ritchey silt loam, 2 to 4 percent slopes

Setting

Landform: Strath terraces
Position on the landform: Backslopes and summits (fig. 5)

Map Unit Composition

Ritchey and similar soils: 92 percent
Dissimilar soils: 8 percent

Figure 5.—An area of Ritchey silt loam, 2 to 4 percent slopes, in the Kankakee River State Park.

Minor Components

Similar soils:
- Soils that have bedrock at a depth of more than 20 inches
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have a thicker surface layer

Dissimilar soils:
- The very shallow, somewhat excessively drained Elizabeth soils on backslopes
- The poorly drained Tallmadge soils on toeslopes

Properties and Qualities of the Ritchey Soil

Parent material: Till over dolostone
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Available water capacity: About 3.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete

Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

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

311C—Ritchey silt loam, 4 to 6 percent slopes

Setting

Landform: Strath terraces
Position on the landform: Backslopes and shoulders

Map Unit Composition

Ritchey and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have a thicker surface layer
- Soils that have bedrock at a depth of more than 20 inches
- Soils that are moderately eroded
- Soils that have slopes of less than 4 percent or more than 6 percent

Dissimilar soils:
- The very shallow, somewhat excessively drained Elizabeth soils on backslopes

Properties and Qualities of the Ritchey Soil

Parent material: Till over dolostone
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Available water capacity: About 3.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

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

311D—Ritchey silt loam, 6 to 12 percent slopes

Setting

Landform: Strath terraces
Position on the landform: Backslopes

Map Unit Composition

Ritchey and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have a thicker surface layer
- Soils that are moderately eroded
- Soils that have bedrock at a depth of more than 20 inches
- Soils that have slopes of less than 6 percent or more than 12 percent

Dissimilar soils:
- The very shallow, somewhat excessively drained Elizabeth soils on backslopes

Properties and Qualities of the Ritchey Soil

Parent material: Till over dolostone
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow or moderately slow
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Available water capacity: About 3.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Rockton Series

Drainage class: Well drained
Permeability: Moderate in the upper part of the profile, slow in the lower part
Landform: Ground moraines and outwash plains
Parent material: Drift and residuum over dolostone
Slope range: 0 to 4 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Argiudolls

Typical Pedon

Rockton silt loam, 2 to 4 percent slopes; at an elevation of 645 feet; 2,130 feet north and 1,050 feet west of the southeast corner of sec. 27, T. 31 N., R. 12 E.; Kankakee County, Illinois; USGS Bradley topographic quadrangle; lat. 41 degrees 08 minutes 25 seconds N. and long. 87 degrees 49 minutes 16 seconds W., NAD 83:

Ap—0 to 6 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.

A—6 to 11 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine and medium granular structure; friable; common very fine roots; neutral; clear smooth boundary.

Bt1—11 to 17 inches; dark yellowish brown (10YR 4/4) clay loam; moderate fine subangular blocky structure; friable; common very fine roots; few faint brown (10YR 4/3) clay films on faces of peds and in pores; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine reddish brown (5YR 4/4) iron concretions throughout; 2 percent gravel; neutral; clear wavy boundary.

Bt2—17 to 21 inches; dark yellowish brown (10YR 4/4) clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; common faint brown (10YR 4/3) clay films on faces of peds and in pores; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common fine reddish brown (5YR 4/4) iron concretions throughout; 4 percent gravel; neutral; clear wavy boundary.

Bt3—21 to 27 inches; dark yellowish brown (10YR 4/4) sandy clay loam; moderate fine and medium subangular blocky structure; common very fine roots; common faint brown (10YR 4/3) clay films on faces of peds; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common fine and medium reddish brown (5YR 4/4) iron concretions throughout; 6 percent gravel; neutral; clear wavy boundary.

2Bt4—27 to 31 inches; brown (7.5YR 4/4) clay loam; weak medium and coarse subangular blocky structure; friable; common very fine roots; few faint brown (7.5YR 4/3) clay films on faces of peds; few distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds; common medium reddish brown (5YR 4/4) iron concretions throughout; common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; 8 percent gravel and 5 percent cobbles; slightly alkaline; clear irregular boundary.

2R—31 inches; very pale brown (10YR 7/4) dolomite bedrock.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 18 inches
Depth to lithic contact: 20 to 40 inches
Thickness of the solum: 20 to 40 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam or loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 or 4
Texture—loam, clay loam, or sandy clay loam
Content of gravel—less than 8 percent

2Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 or 4
Texture—loam, clay loam, or silty clay loam
Content of gravel—less than 12 percent
Content of cobbles—less than 6 percent

503A—Rockton silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and outwash plains
Position on the landform: Summits

Map Unit Composition

Rockton and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of more than 2 percent
- Soils that have bedrock at a depth of less than 20 inches or more than 40 inches
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have more sand and less clay
- Soils that have less sand and more silt

Dissimilar soils:
- The poorly drained Faxon soils on toeslopes
- The poorly drained Tallmadge soils on toeslopes

Properties and Qualities of the Rockton Soil

Parent material: Drift and residuum over dolostone
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 6.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: High
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2s
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

503B—Rockton silt loam, 2 to 4 percent slopes

Setting

Landform: Ground moraines and outwash plains
Position on the landform: Backslopes and summits

Map Unit Composition

Rockton and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have bedrock at a depth of less than 20 inches or more than 40 inches
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have more sand and less clay
- Soils that have less sand and more silt

Dissimilar soils:
- The poorly drained Faxon soils on toeslopes
- The poorly drained Tallmadge soils on toeslopes

Properties and Qualities of the Rockton Soil

Parent material: Drift and residuum over dolostone
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 5.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: High
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Sawmill Series

Drainage class: Poorly drained
Permeability: Moderate
Landform: Flood plains
Parent material: Alluvium
Slope range: 0 to 2 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls

Typical Pedon

Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 636 feet; 1,350 feet south and 140 feet west of the northeast corner of sec. 31, T. 30 N., R. 3 E.; Livingston County, Illinois; USGS Long Point topographic quadrangle; lat. 41 degrees 01 minute 37 seconds N. and long. 88 degrees 54 minutes 42 seconds W., NAD 27:

Ap—0 to 9 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; few very fine roots; slightly acid; abrupt smooth boundary.

A1—9 to 17 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; few very fine roots; slightly acid; clear smooth boundary.

A2—17 to 24 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to moderate medium granular; friable; few very fine roots; 1 percent gravel; neutral; clear smooth boundary.

A3—24 to 29 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak medium prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; 1 percent gravel; neutral; clear smooth boundary.

Bg1—29 to 36 inches; dark gray (5Y 4/1) silty clay loam; weak medium prismatic structure; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; 1 percent gravel; neutral; clear smooth boundary.

Bg2—36 to 41 inches; dark gray (5Y 4/1) silty clay loam; weak medium prismatic structure; friable; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; 1 percent gravel; neutral; clear smooth boundary.

BCg—41 to 48 inches; dark gray (5Y 4/1) silty clay loam; very weak medium prismatic structure; firm; few very fine roots; few fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; few fine prominent yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; common fine distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; 1 percent gravel; neutral; abrupt smooth boundary.

Cg—48 to 60 inches; 60 percent gray (10YR 5/1) and 40 percent brownish yellow (10YR 6/6) silt loam; massive; firm; few fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; 1 percent gravel; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 24 to 36 inches
Depth to carbonates: More than 48 inches
Thickness of the solum: 36 to 60 inches

Ap and A horizons:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—2 to 3
Chroma—0 to 2
Texture—silty clay loam

Bg or BCg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—3 to 6

Chroma—1 or 2
Texture—silty clay loam

Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silty clay loam or clay loam with strata of loam, silt loam, or sandy loam
Content of gravel—less than 10 percent

3107A—Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded

Setting

Landform: Flood plains

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have a thinner subsurface layer
- Soils that have less clay
- Soils that are overlain by recent light-colored deposits
- Soils that have more gravel in the lower part

Dissimilar soils:
- The poorly drained, calcareous Millington soils on flood plains

Properties and Qualities of the Sawmill Soil

Parent material: Alluvium
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 7.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Frequency and most likely period of flooding: Frequent, November through June
Months when flooding does not occur: July through October
Accelerated erosion: None
Potential for frost action: High
Corrosivity: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3w

Prime farmland status: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season
Hydric soil status: Hydric

Selma Series

Drainage class: Poorly drained
Permeability: Moderate
Landform: Outwash plains and stream terraces
Parent material: Outwash
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Endoaquolls

Typical Pedon

Selma loam, 0 to 2 percent slopes; at an elevation of 656 feet; 52 feet south and 160 feet west of the northeast corner of sec. 18, T. 28 N., R. 10 E.; Iroquois County, Illinois; USGS Piper City NE topographic quadrangle; lat. 40 degrees 54 minutes 35 seconds N. and long. 88 degrees 06 minutes 43 seconds W., NAD 27:

Ap—0 to 6 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine and fine roots; neutral; gradual smooth boundary.

A—6 to 13 inches; black (10YR 2/1) clay loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure; friable; common fine roots; neutral; gradual wavy boundary.

Btg1—13 to 19 inches; dark grayish brown (2.5Y 4/2) clay loam; moderate fine and medium subangular blocky structure; friable; common fine roots; many prominent very dark gray (2.5Y 3/1) organo-clay films on faces of peds and in pores; few fine distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.

Btg2—19 to 28 inches; grayish brown (2.5Y 5/2) loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common fine roots; many prominent dark gray (2.5Y 4/1) clay films on faces of peds; few fine distinct light olive brown (2.5Y 5/4) iron and manganese nodules throughout; common medium distinct olive brown (2.5Y 4/4) masses of iron accumulation in the matrix; slightly alkaline; gradual wavy boundary.

Btg3—28 to 39 inches; grayish brown (2.5Y 5/2) loam; weak fine and medium subangular blocky structure; friable; common fine roots; few distinct dark gray (2.5Y 4/1) clay films on faces of peds; a black (N 2.5/0) krotovina at a depth of 30 to 39 inches; few fine prominent dark yellowish brown (10YR 4/6) iron and manganese nodules throughout; few fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation in the matrix; slightly alkaline; gradual wavy boundary.

BCtg—39 to 44 inches; grayish brown (2.5Y 5/2) loam; weak medium subangular blocky structure; friable; few very fine roots; few faint dark gray (2.5Y 4/1) clay films on faces of peds; few fine prominent dark yellowish brown (10YR 4/6) iron and manganese nodules throughout; few fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation in the matrix; strongly effervescent; slightly alkaline; gradual wavy boundary.

Cg1—44 to 54 inches; 55 percent dark gray (2.5Y 4/1), 35 percent gray (2.5Y 5/1), and 10 percent light yellowish brown (2.5Y 6/4), stratified sandy loam and loamy sand; massive in the sandy loam and single grain in the loamy sand; friable in the sandy loam and loose in the loamy sand; few very fine roots; very strongly effervescent; moderately alkaline; gradual wavy boundary.

Cg2—54 to 80 inches; 45 percent dark gray (2.5Y 4/1), 45 percent gray (2.5Y 5/1), and 10 percent light olive brown (2.5Y 5/6), stratified silt loam, sandy loam, and loamy sand; massive in the silt loam and sandy loam and single grain in the loamy sand; friable; few very fine roots; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to carbonates: More than 30 inches
Thickness of the solum: 35 to 55 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—loam or clay loam

Bg, Btg, or BCg horizon:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—4 to 6
Chroma—0 to 2
Texture—loam, clay loam, silt loam, or sandy loam
Content of gravel—less than 10 percent

Cg or C horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—stratified sandy loam, loam, silt loam, or loamy sand
Content of gravel—less than 15 percent

125A—Selma loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Toeslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that are flooded for brief periods
- Soils that have more gravel in the lower part
- Soils that have till in the lower part
- Soils that have less sand and more silt in the upper two-thirds of the profile

Dissimilar soils:
- The somewhat poorly drained Darroch soils on footslopes and summits
- The very poorly drained Houghton soils on toeslopes

Properties and Qualities of the Selma Soil

Parent material: Outwash
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate

Permeability below a depth of 60 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 4.0 to 6.0 percent
Shrink-swell potential: Moderate
Upper limit of apparent seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Flooding: None
Accelerated erosion: Negligible
Potential for frost action: High
Corrosivity: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Sparta Series

Drainage class: Excessively drained
Permeability: Rapid
Landform: Outwash plains
Parent material: Eolian deposits and/or outwash
Slope range: 1 to 6 percent
Taxonomic classification: Sandy, mixed, mesic Entic Hapludolls

Typical Pedon

Sparta loamy fine sand, 1 to 6 percent slopes; at an elevation of 690 feet; 600 feet south and 320 feet west of the northeast corner of sec. 17, T. 22 N., R. 11 W.; Vermilion County, Illinois; USGS Bismarck topographic quadrangle; lat. 40 degrees 22 minutes 16 seconds N. and long. 87 degrees 36 minutes 33 seconds W., NAD 27:

Ap—0 to 13 inches; very dark grayish brown (10YR 3/2) loamy fine sand, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure parting to weak fine granular; very friable; common very fine roots; slightly acid; abrupt smooth boundary.
Bw1—13 to 24 inches; dark yellowish brown (10YR 4/6) loamy fine sand; weak medium subangular blocky structure; very friable; slightly acid; gradual wavy boundary.
Bw2—24 to 42 inches; dark yellowish brown (10YR 4/6) loamy fine sand; weak medium and coarse subangular blocky structure; very friable; slightly acid; gradual wavy boundary.
Bw3—42 to 71 inches; yellowish brown (10YR 5/6) loamy fine sand; weak coarse subangular blocky structure; loose; neutral; clear wavy boundary.
E and Bt—71 to 80 inches; yellowish brown (10YR 5/6) fine sand (E); single grain; loose; $^1/_8$- to $^1/_4$-inch lamellae of dark yellowish brown (10YR 4/4) loamy fine sand (Bt) with a total thickness of less than 4 inches; weak medium subangular blocky structure; very friable; neutral.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches
Depth to lamellae: 45 to 80 inches
Depth to carbonates: More than 80 inches

A or Ap horizon:
Hue—7.5YR or 10YR
Value—2 or 3
Chroma—1 or 2
Texture—loamy fine sand, loamy sand, fine sand, or sand

Bw horizon:
Hue—7.5YR or 10YR
Value—3 to 6
Chroma—3 to 6
Texture—loamy fine sand, loamy sand, fine sand, or sand

E and Bt horizon:
Hue—7.5YR or 10YR
Value—5 or 6 in the E part; 3 to 5 in the Bt part
Chroma—3 to 6
Texture—sand or fine sand in the E part; loamy fine sand, loamy sand, or fine sand in the Bt part

88B—Sparta loamy fine sand, 1 to 6 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Shoulders and summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have less sand and more clay in the lower part
- Soils that have slopes of less than 1 percent or more than 6 percent
- Soils that have gravel in the lower part
- Soils that have a lighter colored surface layer

Dissimilar soils:
- The somewhat poorly drained Watseka soils on footslopes and summits
- The poorly drained Gilford soils on toeslopes
- The poorly drained Granby soils on toeslopes

Properties and Qualities of the Sparta Soil

Parent material: Eolian deposits and/or outwash
Drainage class: Excessively drained
Slowest permeability within a depth of 40 inches: Moderately rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.2 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Low
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Low
Corrosivity: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 4s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Swygert Series

Drainage class: Somewhat poorly drained
Permeability: Slow in the upper part of the profile, very slow in the lower part
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying lacustrine deposits and till
Slope range: 0 to 4 percent
Taxonomic classification: Fine, mixed, active, mesic Aquic Argiudolls

Taxadjunct Feature

Swygert silty clay loam, 2 to 4 percent slopes, eroded, has a mollic epipedon that is less than 10 inches thick. It is classified as a fine, mixed, active, mesic Aquollic Hapludalf.

Typical Pedon

Swygert silty clay loam, 0 to 2 percent slopes; at an elevation of 675 feet; 339 feet south and 66 feet east of the northwest corner of sec. 7, T. 25 N., R. 13 W.; Iroquois County, Illinois; USGS Onarga East topographic quadrangle; lat. 40 degrees 38 minutes 36 seconds N. and long. 87 degrees 53 minutes 02 seconds W., NAD 27:

Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine granular structure; friable; many fine roots; slightly acid; abrupt wavy boundary.

A—7 to 12 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak medium angular blocky structure parting to weak fine subangular blocky; friable; many fine roots; common black (N 2.5/0) krotovinas; slightly acid; abrupt smooth boundary.

Bt1—12 to 18 inches; very dark grayish brown (10YR 3/2) silty clay, gray (10YR 5/1) dry; moderate fine subangular blocky structure; friable; many fine roots; many distinct black (10YR 2/1) and very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine black (10YR 2/1) iron and manganese oxide concretions throughout; common fine faint brown (10YR 4/3) masses of iron accumulation in the matrix; slightly acid; clear wavy boundary.

Bt2—18 to 26 inches; brown (10YR 4/3) silty clay; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common 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 prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine distinct olive gray (5Y 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt3—26 to 31 inches; yellowish brown (10YR 5/4) silty clay; moderate medium prismatic structure parting to weak medium and fine angular blocky; firm; common fine roots; common distinct very dark gray (10YR 3/1) organo-clay films in root channels; common very dark gray (10YR 3/1) krotovinas; common distinct dark gray (10YR 4/1) and gray (10YR 5/1) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine prominent gray (5Y 5/1) iron depletions in the matrix; slightly effervescent (7 percent calcium carbonate equivalent); moderately alkaline; gradual smooth boundary.

2Bt4—31 to 41 inches; light olive brown (2.5Y 5/4) silty clay; moderate medium prismatic structure parting to weak coarse angular blocky; very firm; few fine roots; common prominent very dark gray (10YR 3/1) organo-clay films and gray (5Y 5/1) clay films on faces of peds; common medium prominent gray (5Y 5/1) iron depletions in the matrix; slightly effervescent (16 percent calcium carbonate equivalent); moderately alkaline; gradual smooth boundary.

2Bt5—41 to 51 inches; light olive brown (2.5Y 5/4) silty clay; weak coarse prismatic structure; very firm; few fine roots; common distinct very dark gray (5Y 3/1) organo-clay films in root channels; many distinct dark gray (5Y 4/1) clay films on faces of peds; common fine black (10YR 2/1) iron and manganese oxide concretions throughout; few fine distinct olive (5Y 5/6) and few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine prominent gray (5Y 5/1) iron depletions in the matrix; strongly effervescent (18 percent calcium carbonate equivalent); moderately alkaline; gradual smooth boundary.

2Cd—51 to 60 inches; brown (10YR 5/3) silty clay; massive; very firm; many distinct gray (5Y 6/1) pressure faces; common fine black (10YR 2/1) iron and manganese oxide concretions throughout; few coarse prominent strong brown (7.5YR 5/6 and 5/8) masses of iron accumulation in the matrix; strongly effervescent (19 percent calcium carbonate equivalent); moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to till: Less than 45 inches
Depth to carbonates: 20 to 50 inches
Thickness of the solum: 35 to 55 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silty clay loam

Bt and 2Bt horizons:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—2 to 6
Texture—silty clay or clay

2Cd horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay, silty clay loam, or clay

91A—Swygert silty clay loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Footslopes and summits

Map Unit Composition

Swygert and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have a thinner subsurface layer
- Soils that have slopes of more than 2 percent
- Soils that have more than 50 percent clay in the subsoil

Dissimilar soils:
- The poorly drained Bryce soils on toeslopes

Properties and Qualities of the Swygert Soil

Parent material: Thin mantle of loess or other silty material and the underlying lacustrine deposits and till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: 35 to 55 inches to dense material
Available water capacity: About 7.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: High
Upper limit of perched seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

91B2—Swygert silty clay loam, 2 to 4 percent slopes, eroded

Setting

Landform: Ground moraines and end moraines
Position on the landform: Footslopes and backslopes

Map Unit Composition

Swygert and similar soils: 94 percent
Dissimilar soils: 6 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 2 percent
- Soils that have more than 50 percent clay in the subsoil
- Soils that are slightly eroded
- Soils that have a seasonal high water table at a depth of more than 2 feet

Dissimilar soils:
- The poorly drained Bryce soils on toeslopes

Properties and Qualities of the Swygert Soil

Parent material: Thin mantle of loess or other silty material and the underlying lacustrine deposits and till
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Very slow
Depth to restrictive feature: 35 to 55 inches to dense material
Available water capacity: About 7.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: High
Upper limit of perched seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Symerton Series

Drainage class: Moderately well drained
Permeability: Moderate in the upper part of the profile, slow in the lower part
Landform: Ground moraines and lake plains
Parent material: Outwash and the underlying till; with or without an overlying thin mantle of loess or other silty material
Slope range: 0 to 10 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Oxyaquic Argiudolls

Taxadjunct Feature

Symerton fine sandy loam, 5 to 10 percent slopes, eroded, has a mollic epipedon that is less than 10 inches thick. It is classified as a fine-loamy, mixed, superactive, mesic Mollic Oxyaquic Hapludalf.

Typical Pedon

Symerton silt loam, 2 to 5 percent slopes; at an elevation of 714 feet; 102 feet north and 1,806 feet west of the southeast corner of sec. 33, T. 24 N., R. 12 W.; Iroquois County, Illinois; USGS Hoopeston topographic quadrangle; lat. 40 degrees 29 minutes 17 seconds N. and long. 87 degrees 42 minutes 43 seconds W., NAD 27:

Ap—0 to 10 inches; black (10YR 2/1) silt loam, very dark gray (10YR 3/1) dry; weak very fine granular structure; friable; slightly acid; abrupt smooth boundary.

A—10 to 15 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate very fine granular structure; friable; moderately acid; clear smooth boundary.

AB—15 to 19 inches; very dark grayish brown (10YR 3/2) silty clay loam, dark grayish brown (10YR 4/2) dry; moderate very fine granular structure; friable; many distinct black (10YR 2/1) organic coatings on faces of peds; moderately acid; clear smooth boundary.

2Bt1—19 to 25 inches; brown (10YR 4/3) gravelly clay loam; moderate very fine subangular blocky structure; firm; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide nodules throughout; about 18 percent gravel; moderately acid; clear smooth boundary.

2Bt2—25 to 31 inches; brown (10YR 4/3) gravelly clay loam; moderate fine subangular blocky structure; firm; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide nodules throughout; about 18 percent gravel; neutral; clear smooth boundary.

2Bt3—31 to 35 inches; yellowish brown (10YR 5/4) gravelly loam; weak fine and medium subangular blocky structure; firm; common distinct brown (10YR 4/3) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide nodules throughout; few fine prominent yellowish red (5YR 5/8) masses of iron accumulation in the matrix; about 18 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

3Bt4—35 to 39 inches; brown (10YR 5/3) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; few distinct brown (10YR 4/3) clay films on faces of peds; few fine prominent yellowish red (5YR 5/8) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline; clear smooth boundary.

3C—39 to 60 inches; light olive brown (2.5Y 5/4) and light yellowish brown (2.5Y 6/4) silt loam; massive; firm; few fine prominent yellowish red (5YR 4/8) masses of iron accumulation in the matrix; few fine prominent gray (10YR 5/1) iron depletions in the matrix; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to till: 22 to 50 inches
Depth to carbonates: 24 to 55 inches
Thickness of the solum: 30 to 50 inches

Ap, A, and AB horizons:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—silt loam, loam, or fine sandy loam

2Bt horizon:
Hue—7.5YR or 10YR

Value—4 or 5
Chroma—3 to 6
Texture—clay loam, silty clay loam, sandy clay, loam, or the gravelly analogs of those textures
Content of gravel—less than 20 percent

3Bt or 3BC horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 or 5
Chroma—3 or 4
Texture—silty clay loam or silt loam
Content of gravel—less than 7 percent

3C horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—3 or 4
Texture—silty clay loam or silt loam
Content of gravel—less than 7 percent

294A—Symerton silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Summits

Map Unit Composition

Symerton and similar soils: 88 percent
Dissimilar soils: 12 percent

Minor Components

Similar soils:
- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of less than 2 feet
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Symerton Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash and till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None

Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

294B—Symerton silt loam, 2 to 5 percent slopes

Setting

Landform: Lake plains and ground moraines
Position on the landform: Summits and backslopes

Map Unit Composition

Symerton and similar soils: 88 percent
Dissimilar soils: 12 percent

Minor Components

Similar soils:
- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that are moderately eroded
- Soils that have a thinner subsoil
- Soils that have slopes of less than 2 percent or more than 5 percent

Dissimilar soils:
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Symerton Soil

Parent material: Thin mantle of loess or other silty material and the underlying outwash and till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Medium

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

719A—Symerton fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have a seasonal high water table at a depth of less than 2 feet
- Soils that have less sand and more silt in the upper one-half of the profile
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The poorly drained Gilford soils on toeslopes

Properties and Qualities of the Symerton Soil

Parent material: Outwash and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Moderately slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 1
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

719B—Symerton fine sandy loam, 2 to 5 percent slopes

Setting

Landform: Ground moraines and lake plains
Position on the landform: Summits and backslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have a seasonal high water table at a depth of less than 2 feet
- Soils that have less sand and more silt in the upper one-half of the profile
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that are moderately eroded

Dissimilar soils:
- The poorly drained Gilford soils on toeslopes

Properties and Qualities of the Symerton Soil

Parent material: Outwash and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.5 to 3.5 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

719C2—Symerton fine sandy loam, 5 to 10 percent slopes, eroded

Setting

Landform: Lake plains and ground moraines
Position on the landform: Backslopes and shoulders

Map Unit Composition

Symerton and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have less sand and more silt in the upper one-half of the profile
- Soils that have slopes of less than 5 percent or more than 10 percent

Dissimilar soils:
- The poorly drained Gilford soils on toeslopes

Properties and Qualities of the Symerton Soil

Parent material: Outwash and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Tallmadge Series

Drainage class: Poorly drained
Permeability: Moderate
Landform: Ground moraines and outwash plains
Parent material: Loamy outwash and the underlying cobbly outwash over dolostone
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Argiaquolls

Typical Pedon

Tallmadge sandy loam, 0 to 2 percent slopes; at an elevation of 633 feet; 1,160 feet north and 1,650 feet east of the southwest corner of sec. 32, T. 31 N., R. 14 E.; Kankakee County, Illinois; USGS St. Anne topographic quadrangle; lat. 41 degrees 07 minutes 25 seconds N. and long. 87 degrees 38 minutes 10 seconds W., NAD 27:

Ap—0 to 8 inches; black (10YR 2/1) sandy loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine and fine roots; slightly acid; clear smooth boundary.

A—8 to 14 inches; black (10YR 2/1) sandy clay loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; common very fine and fine roots; neutral; clear smooth boundary.

AB—14 to 17 inches; black (2.5Y 2.5/1) sandy clay loam, dark gray (2.5Y 4/1) dry; moderate fine and medium subangular blocky structure; friable; common very fine roots; 1 percent gravel; neutral; clear smooth boundary.

Btg1—17 to 25 inches; dark gray (2.5Y 4/1) sandy clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; common faint very dark gray (2.5Y 3/1) organo-clay films on faces of peds and in pores; many medium prominent yellowish brown (10YR 5/8) and common fine and medium prominent light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; a black (2.5Y 2.5/1) krotovina; 1 percent gravel; neutral; gradual wavy boundary.

Btg2—25 to 33 inches; dark grayish brown (10YR 4/2) sandy clay loam; weak medium and coarse prismatic structure parting to moderate medium and coarse subangular blocky; friable; common very fine roots; few faint dark gray (2.5Y 4/1) clay films on faces of peds and in pores; many medium and coarse prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; a black (2.5Y 2.5/1) krotovina; 1 percent light gray (10YR 7/2) decomposed limestone bedrock; 1 percent gravel; slightly alkaline; clear wavy boundary.

2BCg—33 to 43 inches; 70 percent grayish brown (2.5Y 5/2) and 30 percent very dark gray (2.5Y 3/1), stratified very channery loam to very channery loamy sand; weak fine and medium subangular blocky structure; friable; common very fine roots; 4 percent light gray (10YR 7/2) decomposed limestone bedrock; 45 percent channers and 10 percent cobbles; slightly effervescent; slightly alkaline; gradual wavy boundary.

3R—43 inches; white (10YR 8/1) limestone or dolostone bedrock that is partially fractured in the upper 1 foot; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to lithic contact: 40 to 60 inches
Thickness of the solum: 40 to 60 inches

Ap and A horizons:
Hue—10YR, 2.5Y, or neutral
Value—2 to 3
Chroma—0 to 2
Texture—sandy loam, loam, or sandy clay loam

Btg horizon:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—4 to 6
Chroma—0 to 2
Texture—loam, clay loam, sandy clay loam, or sandy loam
Content of gravel—less than 10 percent

2BCg horizon:
Hue—10YR, 2.5Y, 5Y, or neutral
Value—4 to 6

Chroma—3 or 4
Texture—the gravelly, very gravelly, cobbly, very cobbly, channery, or very channery analogs of sandy loam, loam, clay loam, sandy clay loam, or loamy sand
Content of rock fragments—15 to 60 percent

610A—Tallmadge sandy loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and outwash plains
Position on the landform: Toeslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have bedrock at a depth of less than 40 inches or more than 60 inches
- Soils that have a lower content of gravel and cobbles in the lower one-third of the profile
- Soils that have more sand and less clay
- Soils that have less sand and more silt in the upper one-half of the profile

Dissimilar soils:
- The well drained Plattville soils on summits

Properties and Qualities of the Tallmadge Soil

Parent material: Loamy outwash and the underlying cobbly outwash over dolostone
Drainage class: Poorly drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): At the surface, January through May
Deepest ponding (depth, months): 0.5 foot, January through May
Flooding: None
Accelerated erosion: Negligible
Potential for frost action: High
Corrosivity: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Interpretive Groups

Land capability classification: 2w
Prime farmland status: Prime farmland where drained
Hydric soil status: Hydric

Varna Series

Drainage class: Moderately well drained
Permeability: Slow
Landform: Ground moraines and end moraines
Parent material: Thin mantle of loess or other silty material and the underlying till
Slope range: 2 to 6 percent
Taxonomic classification: Fine, illitic, mesic Oxyaquic Argiudolls

Taxadjunct Feature

Varna silt loam, 4 to 6 percent slopes, eroded, and Varna silty clay loam, 4 to 6 percent slopes, severely eroded, have a mollic epipedon that is less than 10 inches thick. Varna silt loam, 4 to 6 percent slopes, eroded, is classified as a fine, illitic, mesic Mollic Oxyaquic Hapludalf. Varna silty clay loam, 4 to 6 percent slopes, severely eroded, is classified as a fine, illitic, mesic Oxyaquic Hapludalf.

Typical Pedon

Varna silt loam, 2 to 4 percent slopes; at an elevation of 722 feet; 35 feet north and 860 feet east of the southwest corner of sec. 6, T. 29 N., R. 11 E.; Kankakee County, Illinois; USGS Herscher topographic quadrangle; lat. 41 degrees 00 minutes 54 seconds N. and long. 88 degrees 00 minutes 50 seconds W., NAD 27:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; neutral; abrupt smooth boundary.

A—8 to 12 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; slightly acid; clear smooth boundary.

2Bt1—12 to 18 inches; brown (10YR 4/3) silty clay loam; moderate very fine subangular blocky structure; firm; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; 5 percent fine gravel; moderately acid; clear smooth boundary.

2Bt2—18 to 24 inches; dark yellowish brown (10YR 4/4) silty clay; weak fine prismatic structure parting to moderate very fine and fine subangular blocky; firm; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; 5 percent fine gravel; moderately acid; clear smooth boundary.

2Bt3—24 to 30 inches; light olive brown (2.5Y 5/4) silty clay; weak fine prismatic structure parting to moderate fine angular and subangular blocky; firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 5 percent fine gravel; neutral; clear wavy boundary.

2Bt4—30 to 42 inches; 60 percent yellowish brown (10YR 5/6) and 40 percent grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium angular and subangular blocky; firm; few distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; 5 percent fine gravel; slightly effervescent; slightly alkaline; gradual smooth boundary.

2BCt—42 to 48 inches; 50 percent yellowish brown (10YR 5/6) and 50 percent gray (5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak medium subangular and angular blocky; firm; few distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; 2 percent fine gravel; slightly effervescent; moderately alkaline; gradual wavy boundary.

2Cd—48 to 60 inches; 90 percent yellowish brown (10YR 5/4 and 5/6) and 10 percent gray (5Y 5/1) silty clay loam; massive; very firm; 5 percent fine gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 16 inches
Thickness of the loess or other silty material: Less than 18 inches
Depth to carbonates: 24 to 42 inches
Thickness of the solum: 24 to 60 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3; ranging to 4 in severely eroded pedons
Chroma—1 or 2; ranging to 4 in severely eroded pedons
Texture—silt loam or silty clay loam

2Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay loam, silty clay, or clay
Content of gravel—less than 10 percent

2Cd horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam or clay loam
Content of gravel—less than 10 percent

223B—Varna silt loam, 2 to 4 percent slopes

Setting

Landform: Ground moraines and end moraines
Position on the landform: Backslopes and summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that are moderately eroded
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have less clay in the subsoil
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar soils:
- Moderately well drained, clayey Orthents on summits and backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Varna Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 60 inches to dense material
Available water capacity: About 8.7 inches to a depth of 60 inches

Content of organic matter in the surface layer: 2.5 to 4.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

223B2—Varna silt loam, 2 to 4 percent slopes, eroded

Setting

Landform: End moraines and ground moraines
Position on the landform: Backslopes and summits

Map Unit Composition

Varna and similar soils: 94 percent
Dissimilar soils: 6 percent

Minor Components

Similar soils:
- Soils that are severely eroded
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have less clay in the subsoil
- Soils that have slopes of less than 2 percent or more than 4 percent

Dissimilar soils:
- Moderately well drained, clayey Orthents on summits and backslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Varna Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 60 inches to dense material
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 3.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.

Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

223C2—Varna silt loam, 4 to 6 percent slopes, eroded

Setting

Landform: End moraines and ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that are severely eroded
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have less clay in the subsoil

Dissimilar soils:
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The nearly level, somewhat poorly drained Elliott soils on summits and footslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Varna Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 60 inches to dense material
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 3.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer has been thinned by erosion.
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 3e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

223C3—Varna silty clay loam, 4 to 6 percent slopes, severely eroded

Setting

Landform: End moraines and ground moraines
Position on the landform: Shoulders and backslopes

Map Unit Composition

Varna and similar soils: 94 percent
Dissimilar soils: 6 percent

Minor Components

Similar soils:
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have less clay in the subsoil
- Soils that are moderately eroded

Dissimilar soils:
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The nearly level, somewhat poorly drained Elliott soils on summits and footslopes
- The poorly drained Ashkum soils on toeslopes

Properties and Qualities of the Varna Soil

Parent material: Thin mantle of loess or other silty material and the underlying till
Drainage class: Moderately well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Slow
Depth to restrictive feature: 24 to 60 inches to dense material
Available water capacity: About 6.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Upper limit of perched seasonal high water table (depth, months): 2.0 feet, February through April
Ponding: None
Flooding: None
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Corrosivity: High for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Watseka Series

Drainage class: Somewhat poorly drained
Permeability: Rapid
Landform: Outwash plains and stream terraces
Parent material: Eolian deposits and/or outwash
Slope range: 0 to 2 percent
Taxonomic classification: Sandy, mixed, mesic Aquic Hapludolls

Typical Pedon

Watseka loamy fine sand, 0 to 2 percent slopes; at an elevation of 653 feet; 450 feet south and 55 feet west of the northeast corner of sec. 6, T. 30 N., R. 10 W.; Kankakee County, Illinois; Leesville topographic quadrangle; lat. 41 degrees 07 minutes 14 seconds N. and long. 87 degrees 31 minutes 37 seconds W., NAD 27:

Ap—0 to 8 inches; black (10YR 2/1) loamy fine sand, dark gray (10YR 4/1) dry; weak medium granular structure; very friable; neutral; abrupt smooth boundary.

A—8 to 10 inches; very dark gray (10YR 3/1) loamy fine sand, gray (10YR 5/1) dry; weak medium granular structure; very friable; slightly acid; clear smooth boundary.

Bw1—10 to 24 inches; dark grayish brown (10YR 4/2) sand; weak coarse subangular blocky structure; very friable; common dark gray (10YR 4/1) streaks; common medium distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; slightly acid; gradual irregular boundary.

Bw2—24 to 32 inches; light brownish gray (10YR 6/2) fine sand; weak coarse subangular blocky structure; very friable; common large splotches of dark gray (10YR 4/1) and very dark gray (10YR 3/1) material; moderately acid; clear wavy boundary.

C—32 to 60 inches; light gray (10YR 7/2) fine sand; single grain; loose; moderately acid.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to carbonates: More than 50 inches
Thickness of the solum: 24 to 40 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3
Chroma—1 to 3
Texture—loamy fine sand, fine sand, or sand

Bw or Bg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 7
Chroma—1 to 4
Texture—loamy fine sand, loamy sand, fine sand, or sand
Content of gravel—less than 10 percent

C or Cg horizon:
Hue—10YR, 2.5Y, or 5Y
Value—4 to 7
Chroma—1 to 4
Texture—loamy fine sand, loamy sand, fine sand, or sand
Content of gravel—less than 10 percent

49A—Watseka loamy fine sand, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Footslopes and summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have more than 10 percent gravel
- Soils that have more clay in the upper part of the subsoil
- Soils that have deposits of bog iron

Dissimilar soils:
- The somewhat excessively drained Ade soils on backslopes and summits
- The poorly drained Granby soils on toeslopes

Properties and Qualities of the Watseka Soil

Parent material: Eolian deposits and/or outwash
Drainage class: Somewhat poorly drained
Slowest permeability within a depth of 40 inches: Rapid
Permeability below a depth of 60 inches: Rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.5 percent
Shrink-swell potential: Low
Upper limit of apparent seasonal high water table (depth, months): 1.0 foot, January through May
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Low
Corrosivity: Low for steel and high for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: High

Interpretive Groups

Land capability classification: 3s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Waupecan Series

Drainage class: Well drained
Permeability: Moderate in the upper part of the profile, very rapid in the lower part
Landform: Outwash plains and stream terraces
Parent material: Loess or other silty material and the underlying loamy and gravelly outwash

Slope range: 0 to 4 percent
Taxonomic classification: Fine-silty, mixed, superactive, mesic Typic Argiudolls

Typical Pedon

Waupecan silt loam, 2 to 4 percent slopes; at an elevation of 775 feet; 2,120 feet south and 720 feet west of the northeast corner of sec. 20, T. 40 N., R. 9 E.; Du Page County, Illinois; USGS West Chicago topographic quadrangle; lat. 41 degrees 56 minutes 16 seconds N. and long. 88 degrees 13 minutes 38 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 very fine and fine granular structure; friable; common very fine roots; slightly acid; clear smooth boundary.

A—7 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure parting to moderate very fine and fine granular; friable; common very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; clear smooth boundary.

Bt1—11 to 14 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—14 to 24 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; common distinct dark brown (10YR 3/3) organo-clay films and many distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; gradual smooth boundary.

Bt3—24 to 35 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; common distinct dark brown (10YR 3/3) organo-clay films and brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt4—35 to 39 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common very fine and fine roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films and few distinct brown (10YR 4/3) clay films on faces of peds; 2 percent gravel; neutral; clear wavy boundary.

2BCt—39 to 45 inches; brown (10YR 4/3) gravelly loam; weak medium subangular blocky structure; friable; few distinct dark brown (10YR 3/3) organo-clay films on faces of peds; 25 percent gravel and 5 percent cobbles; slightly effervescent; slightly alkaline; gradual wavy boundary.

3C—45 to 60 inches; dark yellowish brown (10YR 4/4) very gravelly loamy sand; single grain; loose; 45 percent gravel and 10 percent cobbles; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Thickness of the loess or other silty material: 24 to 48 inches
Depth to sandy and gravelly outwash: 40 to 60 inches
Depth to carbonates: 24 to 48 inches
Thickness of the solum: 40 to 72 inches

Ap and A horizons:
Hue—10YR
Value—2 or 3

Chroma—1 or 2
Texture—silt loam

Bt horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or silt loam

2BCt horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 to 6
Texture—clay loam, sandy clay loam, loam, sandy loam, loamy sand, or the gravelly analogs of those textures
Content of gravel—0 to 35 percent

3C horizon:
Hue—7.5YR or 10YR
Value—3 to 6
Chroma—3 to 6
Texture—gravelly loamy sand to extremely gravelly coarse sand
Content of gravel—15 to 70 percent
Content of cobbles—5 to 35 percent

369A—Waupecan silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces and outwash plains
Position on the landform: Summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils in which the depth to sandy or gravelly deposits is less than 40 inches or more than 60 inches
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have slopes of more than 2 percent

Dissimilar soils:
- The somewhat poorly drained Grundelein soils on summits and footslopes
- The poorly drained Dunham soils on toeslopes

Properties and Qualities of the Waupecan Soil

Parent material: Loess or other silty material and the underlying loamy and gravelly outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Very rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent

Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: High
Corrosivity: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 1
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

369B—Waupecan silt loam, 2 to 4 percent slopes

Setting

Landform: Outwash plains and stream terraces
Position on the landform: Backslopes and summits

Map Unit Composition

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

Minor Components

Similar soils:
- Soils in which the depth to sandy or gravelly deposits is less than 40 inches or more than 60 inches
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have a seasonal high water table at a depth of less than 6 feet

Dissimilar soils:
- The somewhat poorly drained Grundelein soils on summits and footslopes
- The poorly drained Dunham soils on toeslopes

Properties and Qualities of the Waupecan Soil

Parent material: Loess or other silty material and the underlying loamy and gravelly outwash
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Moderate
Permeability below a depth of 60 inches: Very rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: High
Corrosivity: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

Whalan Series

Drainage class: Well drained
Permeability: Moderate in the upper part of the profile, slow in the lower part
Landform: Ground moraines and outwash plains
Parent material: Drift and residuum over dolostone
Slope range: 0 to 4 percent
Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon

Whalan silt loam, 2 to 4 percent slopes; at an elevation of 620 feet; 1,560 feet south and 3,640 feet east of the northwest corner of sec. 9, T. 31 N., R. 11 E.; Kankakee County, Illinois; USGS Bourbonnais topographic quadrangle; lat. 41 degrees 11 minutes 12 seconds N. and long. 87 degrees 57 minutes 33 seconds W., NAD 27:

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

E—5 to 11 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium platy structure; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on horizontal faces of peds; neutral; clear wavy boundary.

Bt1—11 to 15 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine subangular blocky structure; friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few faint brown (10YR 4/3) clay films on faces of peds and in pores; neutral; clear wavy boundary.

Bt2—15 to 22 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; friable; common very fine roots; common faint brown (10YR 4/3) clay films on faces of peds and in pores; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear wavy boundary.

Bt3—22 to 27 inches; dark yellowish brown (10YR 4/4) clay loam; strong fine and medium subangular blocky structure; friable; common very fine roots; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; few prominent very dark grayish brown (10YR 3/2) organic coatings in root channels and/or pores; few fine black (10YR 2/1) manganese nodules throughout; 3 percent gravel; neutral; clear smooth boundary.

2Bt4—27 to 32 inches; brown (7.5YR 4/4) clay loam; weak medium subangular blocky structure; friable; common very fine roots; common faint brown (7.5YR 4/3) clay films on faces of peds; few distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds; few fine black (10YR 2/1) manganese nodules throughout; 6 percent gravel; neutral; clear smooth boundary.

2R—32 inches; very pale brown (10YR 7/4) dolomite bedrock.

Range in Characteristics

Depth to lithic contact: 20 to 40 inches
Thickness of the solum: 20 to 40 inches

A or Ap horizon:
Hue—10YR

Value—3 or 4
Chroma—1 to 3
Texture—silt loam or loam

E horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam or loam

Bt horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—loam, clay loam, or silt loam
Content of gravel—less than 8 percent

2Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, silty clay loam, or silty clay
Content of gravel—less than 10 percent
Content of cobbles—less than 10 percent

509A—Whalan silt loam, 0 to 2 percent slopes

Setting

Landform: Ground moraines and outwash plains
Position on the landform: Summits

Map Unit Composition

Whalan and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of more than 2 percent
- Soils that have bedrock at a depth of less than 20 inches or more than 40 inches
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have a thicker, darker surface layer
- Soils that have less sand and more silt in the upper one-half of the profile

Dissimilar soils:
- The poorly drained Faxon soils on toeslopes

Properties and Qualities of the Whalan Soil

Parent material: Drift and residuum over dolostone
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 5.3 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2s
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

509B—Whalan silt loam, 2 to 4 percent slopes

Setting

Landform: Ground moraines and outwash plains
Position on the landform: Backslopes and summits

Map Unit Composition

Whalan and similar soils: 92 percent
Dissimilar soils: 8 percent

Minor Components

Similar soils:
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have bedrock at a depth of less than 20 inches or more than 40 inches
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have a thicker, darker surface layer
- Soils that have less sand and more silt in the upper one-half of the profile

Dissimilar soils:
- The poorly drained Faxon soils on toeslopes

Properties and Qualities of the Whalan Soil

Parent material: Drift and residuum over dolostone
Drainage class: Well drained
Slowest permeability within a depth of 40 inches: Slow
Permeability below a depth of 60 inches: Moderately rapid or rapid
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Available water capacity: About 5.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Ponding: None
Flooding: None
Accelerated erosion: Slight
Potential for frost action: Moderate
Corrosivity: Moderate for steel and concrete
Surface runoff class: Low

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Interpretive Groups

Land capability classification: 2e
Prime farmland status: Prime farmland in all areas
Hydric soil status: Not hydric

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 in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Soil Series and Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

In 2002, Kankakee County had 333,821 acres of cropland (U.S. Department of Commerce, 2002). The major row crops are corn and soybeans. The major small grain crop is wheat. Alfalfa is the major forage crop. Some areas are used for vegetable or nursery crops.

The soils in Kankakee 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 major management concerns affecting the use of the soils in the county as cropland are water erosion, wetness, restricted permeability, poor tilth, crusting, high pH, and root-restrictive layers.

Water erosion is a potential problem on approximately 15 percent of the cropland in the county. Erosion can be a problem on soils that have slopes of more than 2 percent, such as Beecher, Elliott, and Varna soils. It is also a hazard in areas where the slopes are long and less than 2 percent and where runoff water is concentrated.

Loss of the surface layer through sheet and rill erosion 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 than the surface soil. As the content of organic matter decreases in the plow layer and the clay content increases, soil tilth deteriorates. As a result, surface crusting can occur and the rate of water infiltration is reduced. Under these conditions, preparing a good seedbed could be difficult. Soil erosion results in the sedimentation of streams, rivers, road ditches, and lakes. This sedimentation reduces the quality of water for agricultural, municipal, and recreational uses and for fish and wildlife. Removing the sediment generally is expensive. Erosion control 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 chisel plowing, no-till farming, or ridge planting. These systems can leave 20 to 90 percent of the surface covered with crop residue. No-till farming is most effective in areas of moderately well drained and well drained soils. Another cultural practice is a crop rotation that includes 1 or more years of close-growing grasses or legumes. If slopes are smooth and uniform, terraces and contour farming also are effective in controlling erosion.

Structural practices are needed in drainageways where concentrated runoff flows overland. Establishing grassed waterways or erosion-control structures can reduce the hazard of erosion in these areas (fig. 6).

Figure 6.—Grassed waterways in agricultural areas help to remove excess surface water and prevent the formation of gullies.

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.

Drainage systems have been installed in most areas of poorly drained and somewhat poorly drained soils used as cropland in the county; therefore, these soils are adequately drained for the commonly grown crops. Measures that maintain the drainage system are needed. Poorly drained soils, such as Gilford and Reddick soils, have subsurface drainage. Also, in some areas of poorly drained and very poorly drained soils, such as Bryce and Peotone soils, surface tile inlets or shallow surface ditches are needed to remove excess water. In some areas, 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 Andres, Elliott, and Swygert soils, have subsurface drainage.

Restricted permeability in the soil can increase the susceptibility to erosion. As water movement slows within a soil, the chance for runoff increases. The slowly permeable Swygert soils are more susceptible to erosion than the moderately permeable Jasper soils. The hazard of erosion resulting from restricted permeability can be reduced 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. For example, the tile spacing in areas of the slowly permeable Elliott soils should be narrower than that in areas of the moderately permeable Beardstown soils for the drainage system to be as effective in lowering the seasonal high water table.

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.

Poor tilth is a problem on soils that have a surface layer of silty clay loam or silty clay. Ashkum, Bryce, and Pella soils are examples. If these soils are plowed when wet, the surface layer can become cloddy. This 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 or ridge tillage may also work well in areas of these soils.

Surface crusting can also be a problem in areas of Ozaukee and Ritchey soils, which have a surface layer of silt loam and 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.

High pH within a depth of 40 inches can occur in Darroch and Pella soils. It can reduce the uptake of some nutrients by the plants or cause other elements to accumulate to toxic levels. 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.

A root-restrictive layer limits the available water capacity in the soil. Some soils, such as Markham, Varna, and Swygert soils, are moderately deep to layers that restrict the penetration of plant roots. Increasing the rate of water infiltration, reducing the runoff rate, or planting drought-tolerant species can minimize the effects of this limitation. Planting cover crops and using a system of conservation tillage that leaves crop residue on the surface after planting increase the rate of water infiltration and reduce the runoff rate. Planting drought-tolerant species, such as soybeans and winter wheat, is beneficial because these crops make the most efficient use of the limited amount of water.

Proper management is needed on hayland to prolong the life of desirable forage species, maintain or improve the quality and quantity of forage, and control erosion and reduce runoff. Hay may last as a vigorous crop for 4 to 5 years, depending on management and on the varieties seeded. Suitable hay plants include several legumes and cool-season grasses. Alfalfa is the legume most commonly grown for hay. It is often used in mixtures with smooth bromegrass and orchardgrass. Alfalfa is best suited to moderately well drained soils, such as Symerton 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 specific tract of land.

Overgrazing reduces the vigor of pasture plants and reduces forage production. It also results in an increase in the extent of weeds and brush. Deferred grazing, rotation grazing, and proper stocking rates help to prevent overgrazing. Deferred grazing allows the plants in pastures that are not being used to build up reserves of carbohydrates. Rotating grazing among several pastures allows each area a rest period.

Many of the soils in the survey area have a high water table in the spring. Deferred grazing during wet periods can minimize surface compaction. Pasture renovation also helps to prevent compaction. Frost heave can damage alfalfa and red clover in areas that have a seasonal high water table. Leaving a cover of stubble 4 to 6 inches high during the winter and using mixtures of grasses and legumes help to prevent frost heave.

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 6.

Cropland

The main concerns in managing nonirrigated cropland are controlling water erosion, soil wetness, and ponding; minimizing surface crusting; improving poor tilth; and limiting the effects of a limited available water capacity, a high pH, excessive permeability, restricted permeability, root-restrictive layers, and a limited depth to bedrock. Excess lime, wind erosion, flooding, and subsidence are additional management concerns.

Generally, a combination of several practices is needed to control water erosion. Conservation tillage, stripcropping, contour farming, conservation cropping systems, crop residue management, terraces, diversions, grassed filter strips, and grassed waterways help to minimize excessive soil loss.

In some areas used as cropland, wetness and ponding are management concerns. 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.

Restricted permeability can increase the susceptibility of the soil to erosion and limit the effectiveness of drainage systems. The hazard of erosion can be reduced by incorporating green manure crops, manure, or crop residue into the soil; applying a system of conservation tillage; and using conservation cropping systems. Spacing the tile at narrow intervals improves the ability of the drainage system to lower the seasonal high water table.

High pH and excess lime can be overcome by incorporating green manure crops, manure, or crop residue into the soil and by applying conservation tillage and conservation cropping systems. Also, crops may respond well to additions of phosphate fertilizer on soils that have a high content of lime.

A root-restrictive layer in the soil limits the total amount of moisture available to plants. Bedrock within a depth of 40 inches also limits the available water capacity. These limitations cannot be easily overcome. Planting cover crops and using a system of conservation tillage that leaves crop residue on the surface after planting increase the rate of water infiltration, reduce the runoff rate, and conserve moisture. Also, planting drought-tolerant crop species helps to make the most efficient use of the limited supply of moisture in the soil.

Conserving moisture is important in areas where the soils have a limited 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.

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.

Wind erosion can be controlled by applying a system of conservation tillage that leaves crop residue on the surface after planting and by keeping the surface rough.

Flooding cannot be easily overcome. Winter small grain crops can be damaged by floodwater. Tilling and planting should be delayed in the spring until flooding is no longer a hazard. Dikes and diversions can reduce the extent of the crop damage caused by floodwater.

Subsidence occurs as a result of shrinkage from drying, consolidation caused by the loss of ground water, compaction from tillage, wind erosion, burning, and biochemical oxidation. Limiting the amount of drainage, avoiding excessive tillage, avoiding tilling 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.

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 between 20 and 35 percent.

Depth to bedrock.—Bedrock is within 40 inches of the surface.

Excess lime.—The calcium carbonate equivalent is 15 percent or more within a depth of 16 inches.

Excessive permeability.—The upper limit of the permeability range is 6 inches or more within the soil profile.

Flooding.—The soil is occasionally flooded or frequently flooded.

High pH.—The pH is 7.4 or more within a depth of 40 inches.

Limited available water capacity.—The available water capacity calculated to a depth of 60 inches or to a root-limiting layer is 6 inches or less.

Ponding.—The seasonal high water table is above the surface.

Poor tilth.—The soil 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.

Root-restrictive layer.—Dense material is within a depth of 40 inches.

Subsidence.—The decrease in surface elevation is more than 0 inches.

Water erosion.—The Kw factor of the surface layer multiplied by the limit of the slope is 0.8 or more, and the slope is 3 percent or more.

Wetness.—The seasonal high water table is within a depth of 1.5 feet.

Wind erosion.—The wind erodibility group (WEG) is 1 or 2.

Pastureland

The major management concerns affecting pastureland are water erosion, wetness, ponding, low pH, high pH, frost heave, root-restrictive layers, limited available water capacity, poor tilth, excessive permeability, depth to bedrock, excess lime, low fertility, wind erosion, equipment limitations, and flooding.

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 reseeding 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.

Wetness and ponding are concerns in some areas used for pasture or hay. Wetness occurs when the seasonal high water table is within a depth of 1.5 feet. Ponding occurs when the water table is above the surface. 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. Selecting species of grasses and legumes that are adapted to wet conditions can improve forage production. Restricting use during wet periods helps to keep the pasture in good condition.

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.

Excess lime occurs in soils that have a calcium carbonate equivalent of 15 percent or more within a depth of 16 inches. The high pH associated with this limitation can inhibit the uptake of certain nutrients and micronutrients 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 sulfate and phosphate compounds or the addition of certain forms of nitrogen fertilizer can improve forage production.

Frost heave is a limitation in areas where the soils have a moderate or high potential for frost action. It occurs when ice lenses or bands develop in the soil and drive an ice wedge between two layers of soil near the surface layer. The ice wedges heave the overlying soil layer upward, snapping the roots. Soils that have textures low in content of sand have small pores that hold water and enable ice lenses to form. Selecting adapted forage and hay varieties can reduce the effects of frost heave. Timely deferment of grazing maintains a cover of vegetation on the surface, which insulates the soil and thus helps to minimize the effects of frost heave.

Some soils have a dense layer of till within a depth of 40 inches. This layer inhibits the penetration of roots. The root-restrictive layer reduces the amount of total water in the soil that is available to plants. Deep-rooted perennial legumes and grasses make the most efficient use of the limited amount of moisture. Selecting drought-tolerant species of grasses and legumes can improve forage production.

Available water capacity refers to the capacity of soils to hold water available for use by most plants. If the available water capacity calculated to a depth of 60 inches or to a root-limiting layer is 6 inches or less, measures that conserve moisture may be needed. 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. The plants should not be clipped or grazed until they are sufficiently established.

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. Soils in which the content of clay is 27 percent or more and the content of organic matter is less than 3 percent are considered to have poor tilth. 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 in which the depth to bedrock is 40 inches or less have a restricted root zone and a limited amount of available moisture. Planting adapted forage and hay varieties minimizes this limitation. The plants should not be clipped or grazed until they are sufficiently established. Rotation grazing and timely deferment of grazing help to maintain healthy stands of forage plants, which, in turn, reduce the runoff rate and thus conserve moisture.

Excessive permeability can cause deep leaching of nutrients and pesticides. Permeability is considered excessive if it is 6 inches or more per hour within the soil profile. Selecting appropriate chemicals and using split application methods reduce the hazard of ground-water contamination when stands of legumes and grasses are established or renovated.

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 a wind erodibility group (WEG) of 1 or 2 are susceptible to wind erosion. If the soil is tilled for the reseeding of pasture or hay crops, planting winter cover crops, using a system of conservation tillage that leaves crop residue on the surface, and keeping the surface rough help to control wind erosion. Overgrazing or grazing during wet periods reduces the extent of plant cover and thus increases the hazard of wind erosion. Proper stocking rates, rotation grazing, and timely deferment of grazing, especially during wet periods, help to keep the pasture in good condition.

In areas where slopes are 10 percent or more, the use of farm equipment may be restricted. Equipment limitations can affect fertilization, harvest, pasture renovation, and seedbed preparation. They cannot be easily overcome.

Frequent or occasional flooding can damage forage stands and delay harvesting in some years. Dikes and diversions help to control the extent of damage caused by flooding. Selecting species of grasses and legumes that are adapted to wet conditions can improve forage production. Restricting use during wet periods helps to keep the pasture in good condition.

Crop Yield Estimates

Table 7 shows the average yields per acre that can be expected for corn, soybeans, winter wheat, oats, and grass-legume hay under an optimum level of management and for grass-legume pasture under an average level of management. 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. Available yield data from nearby counties and results of field trials and demonstrations also are considered (Olson and Lang, 2000).

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 7.

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 7.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

Over the past few decades, a trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses (fig. 7). The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 8. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 5. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Soil Series and Detailed Soil Map Units."

Hydric Soils

Table 9 lists the map unit components that are rated as hydric soils in the survey area. 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, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric

Figure 7.—Housing subdivisions are reducing the acreage of prime farmland in Kankakee County.

soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation (fig. 8).

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999) and “Keys to Soil Taxonomy” (Soil Survey Staff, 2003) and in the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in “Field Indicators of Hydric Soils in the United States” (Hurt and others, 2002).

Figure 8.—Hydrophytic vegetation being established as reclaimed wetland.

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
   B. are poorly drained or very poorly drained and have either:
      1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or

   2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
   3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

Forestland Management and Productivity

Paul M. Deizman, district forester, Illinois Department of Natural Resources, helped prepare this section.

Forest once covered nearly 6 percent of the land in Kankakee County. Little of the presettlement forestland has been untouched or properly managed. Presently, the county has 17,000 acres of forest. This current forested acreage represents 4 percent of the total land area in the county. About 2,000 additional acres, representing another small percentage of the total land acreage, is considered tree-covered land or brushland. These acres will develop into forests over time. The current trend of reforesting will also increase the acreage of forestland in the county.

Over the past century, many original forests have been converted to agriculture. New forests have been created only by natural succession of fallow upland and bottom-land areas, by abandonment of low-yielding cropland, and by seeding or planting of seedlings. Approximately 10 percent of the present forestland is under proper timber management. Areas of grazed forestlands are slowly recovering but may require many decades or a full forest generation in order to become productive with or without management. As demographics change within the county and time passes, these same forestation realities will continue to be significant.

Principal forest cover types in Kankakee County include oak-hickory (6,400 acres), maple-beech (5,600 acres), elm-ash-soft maple (2,700 acres), and cottonwood (1,000 acres). The white pine forest type also occurs in the county. Among these principal forest types and other minor cover associations, at least 77 different tree taxa and 98 shrub taxa occur in Kankakee County.

There are no production sawmills operating within the borders of Kankakee County. Although numbers of sawmills have been gradually declining, those in and around the county borders adequately serve the local demands for custom sawing. Additionally, nearly a dozen small, portable mills are located in or serve northeastern Illinois. Today's hardwood timber markets are globally oriented and allow any owner with quality forest products reasonable access to commercial markets through interested buyers, forest operators, State foresters, and forestry consultants. The demand for standing timber from Kankakee County remains moderate to good. Currently, 16 firms, employing nearly 13,552 individuals, manufacture or use wood products in Kankakee County. These include primarily millwork, container/pallet, building material, furniture, and paper firms.

Kankakee County has tremendous potential for establishing additional productive forestland. The highly erodible land (HEL) classification includes nearly 16,900 acres that would be well suited to hardwood forest. Forestry in Kankakee County is not only potentially profitable but serves to protect and enhance watershed quality, recreational opportunities, and wildlife habitat. Interest in forest management and reforestation in the county is moderate. The average forest holding per landowner is 13 acres. Even parcels as small as 5 acres can be effectively managed both for timber production and for conservation of multiple resources.

Assistance in establishing, improving, or managing forestland is available from foresters or from specialists in natural resources. Detailed information on forest resources is available from the Forestry Department of the Illinois Department of Natural Resources.

Forestland Harvest Equipment Considerations

Table 10 provides information regarding the use of harvest equipment in areas used as forestland.

For most soils spring is the most limiting season. Alternate thawing and freezing during snowmelt cause saturation and low strength of the surface soil layers. When thawing is complete, saturation continues for short periods in well drained soils to nearly all year in very poorly drained soils in depressions. Degrees of wetness are generally proportionate to the depth at which a seasonal high water table occurs. The water table generally is lower in summer during the heavy use of moisture by vegetation and is nearer the surface during periods when absorbed precipitation is greater than the vegetation requires. Harvesting during periods of saturation usually results in severe soil damage, except when the soil is frozen. The preferred season for timber harvest on many soils is winter, when wetness and low soil strength can be overcome by freezing.

Considerations shown in table 10 are as follows:

Slope.—The upper slope limit is more than 15 percent.

Flooding.—The soil is frequently flooded.

Wetness.—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched seasonal high water table (any drainage class).

Depth to hard rock.—The depth to hard bedrock is less than 10 inches.

Rubbly surface.—The word “rubbly” is in the map unit name.

Surface stones.—The words “extremely stony” are in the map unit name.

Surface boulders.—The word “bouldery” is in the map unit name.

Areas of rock outcrop.—Rock outcrop is a named component in the map unit.

Susceptible to rutting and wheel slippage (low strength).—The AASHTO classification is A-6, A-7, or A-8 in any layer at a depth of 20 inches or less.

Poor traction (loose sandy material).—The USDA texture includes sands or loamy sands in any layer at a depth of 10 inches or less.

Forest Haul Road and Log Landing Considerations

Table 11 provides information regarding the use of the soils as haul roads and log landings. Log landings are areas where logs are assembled for transportation. Areas that require little or no cutting, filling, or surface preparation are desired. Haul roads serve as transportation routes from log landings to primary roads. Generally, haul roads are unpaved, but some are graveled.

For haul roads, considerations shown in the table are as follows:

Slope.—The slope is 8 percent or more.

Flooding.—The soil is frequently flooded.

Wetness.—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched seasonal high water table (any drainage class).

Depth to hard rock.—The depth to hard bedrock is less than 20 inches.

Depth to soft rock.—The depth to soft bedrock is less than 20 inches.

Surface boulders.—The word “bouldery” is in the map unit name.

Areas of rock outcrop.—Rock outcrop is a named component in the map unit.

Low bearing strength.—The AASHTO classification is A-6, A-7, or A-8 in any layer at a depth of 20 inches or less.

Rubbly surface.—The word “rubbly” is in the map unit name.

For log landings, considerations shown in the table are as follows:

Slope.—The slope is more than 3 percent.

Flooding.—The soil is occasionally flooded or frequently flooded.

Wetness.—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched seasonal high water table (any drainage class).

Surface boulders.—The word “bouldery” is in the map unit name.

Areas of rock outcrop.—Rock outcrop is a named component in the map unit.

Susceptible to rutting and wheel slippage (low strength).—The AASHTO classification is A-6, A-7, or A-8 in any layer at a depth of 20 inches or less.

Rubbly surface.—The word “rubbly” is in the map unit name.

Forestland Site Preparation and Planting Considerations

Table 12 provides information regarding considerations affecting site preparation and planting in areas used as forestland.

Considerations shown in the table are as follows:

Slope.—The upper slope limit is more than 15 percent.

Flooding.—The soil is frequently flooded.

Wetness.—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched seasonal high water table (any drainage class).

Depth to hard rock.—The depth to hard bedrock is less than 20 inches.

Surface stones.—The word “stony” is in the map unit name.

Surface boulders.—The word “bouldery” is in the map unit name.

Areas of rock outcrop.—Rock outcrop is a named component in the map unit.

Water erosion.—The slope is 8 percent or more.

Potential poor tilth and compaction.—The AASHTO classification is A-6 or A-7 in the upper 10 inches.

Rubbly surface.—The word “rubbly” is in the map unit name.

Cobbly surface.—The word “cobbly” is in the map unit name.

Forest Productivity

Table 13 can help woodland owners or forest managers plan the use of soils for wood crops. Only those soils commonly used for wood crops are listed.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index* and as a *volume* number. The site index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

The *volume*, a number, is the yield likely to be produced by the most important trees. This number, expressed as cubic feet per acre per year, indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Suggested trees to plant are those that are suitable for commercial wood production.

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 14 shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in table 14 are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service or from a commercial nursery.

Recreation

Kankakee County offers a wide variety of recreational facilities, including a State park and county-owned conservation areas. The Kankakee River State Park provides an assortment of outdoor activities, including boating, canoeing, fishing, hunting, hiking, biking (fig. 9), horseback riding, camping, picnicking, snowmobiling, and cross-country skiing. Also, various recreational facilities and activities are provided by most municipalities in the county. The Kankakee and Iroquois Rivers and other lakes and streams in the region also provide opportunities for recreational activities.

The soils of the survey area are rated in tables 15a and 15b according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

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

The information in tables 15a and 15b can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Figure 9.—Bicycle trails are among the many recreational features of the Kankakee River State Park.

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

Bob Massey, district wildlife biologist, Illinois Department of Natural Resources, helped prepare this section.

Kankakee County hosts a wide array of wildlife. Past geologic conditions have played a significant role in soil formation and topography, and a wide variety of soils and conditions have developed. These soils and formations have given rise to a large number of habitat types, both large and small. Areas that sustain plentiful amounts of high quality habitat contain both common and unique types of wildlife, including some that are threatened or endangered. Throughout Kankakee County, the soils directly affect the potential for habitat development and thus influence the numbers and types of wildlife that occur.

Illinois is divided into 14 large physiographic areas that are largely based on soil types (Schwegman, 1984). Kankakee County falls within the Grand Prairie Division, but it is divided into two smaller sections. The northern and southwestern parts of the county are part of the Grand Prairie Section. These areas are characterized by slightly rolling topography and typically developed under prairie grasses. The rest of the county and the Kankakee and Iroquois River riparian zones and most of Pembroke, St. Anne, and Yellowhead Townships fall within the Kankakee Sand Area Section. These areas developed mostly under wooded conditions but had many sandy prairie and savannah areas interspersed throughout. The black oak savannahs of Pembroke Township are of national ecologic significance (fig. 10).

Food (whether natural or planted), cover, and the availability of water are all directly influenced by local soil conditions. If local conditions are lacking any one of these components for any appreciable time, local wildlife will either perish or move. Several habitat improvement programs can create quality habitat and benefit local wildlife.

Figure 10.—Black oak savannahs, which in this survey area are unique to Pembroke Township, provide habitat for a variety of wildlife species.

Most of these programs are designed primarily for soil conservation purposes but also benefit local wildlife.

Overall habitat types in the county can be grouped into four very large categories: grasslands, woodlands, wetlands, and row-cropped areas. Although they are not normally considered a habitat type, row crops make up a significant portion of the land area of Kankakee County. In many areas, row crops are the only available habitat of any significance for miles. Row-cropped areas provide only minimal year-round cover, but they do provide seasonal cover and are a significant source of food throughout the year for many types of wildlife.

Grasslands consist mainly of cool-season grasses (hay plants, such as bromegrass, fescue, rye, and timothy) and warm-season grasses (prairie grasses, such as big bluestem, switchgrass, and indiangrass). Both types of grasses and the associated herbaceous plants (flowers) can produce good habitat for wildlife if managed properly. Wildlife species common to grassland areas include eastern meadowlark, horned lark, pheasant, bobwhite quail, kestrel, red-tailed hawk, northern harrier, sandhill cranes, plains pocket gopher, meadow vole, 13-lined ground squirrel, coyote, badger, white-tailed deer, American toad, and hog-nosed snake.

Cool-season grasses put on most of their growth early and late in the growing season. If grown in combination with an appropriate legume, such as alfalfa, they can provide excellent early nesting habitat for numerous wildlife, including pheasants. If allowed to become a monoculture of rank sod-bound grass, areas of these grasses can actually become a biological desert. Cool-season grasses respond well to a less intense haying regime in which hay production is secondary. Rehabilitation is necessary when the legume begins to fade out. The first hay crop should not be harvested until after ground-nesting birds have completed their activities (about July 1). Cool-season grasses are generally limited by available moisture and fertility.

Prairie grasses put on the bulk of their growth during the summer. Most prairie grasses have a bunch-type growth form, which means that they leave open space between clumps of grass. This form of growth is beneficial for a wide variety of wildlife. When planted along with a good assortment of herbaceous plants (flowers), prairie grasses provide excellent year-round habitat for most species common to Kankakee County. Prairie grasses are tolerant of all soil conditions typical of the county and require very low maintenance once established. Periodic burning is required to maintain a healthy prairie. Many prairie grasses are tolerant of extremely dry conditions and grow well on the very dry, sandy soils that occur throughout the area.

Herbaceous plants that grow in areas of both cool- and warm-season grasses can provide a very showy habitat as well as an abundance of natural food for local wildlife and thus are an important part of all prairie plantings. When grassland habitat areas are planned, factors that should be considered include soil type, moisture, erosion potential, landowner goals, and management potential. The timeliness of any planting is important.

Many types of wildlife are exclusively dependent on woodland habitat, and some use woodlands on a more temporary or seasonal basis. Examples of woodland wildlife include white-tailed deer, eastern wild turkey, pileated woodpecker, gray squirrel, fox squirrel, red fox, smooth green snake, flying squirrel, red squirrel, and gray tree frog.

Woodlands can be grouped according to a variety of conditions, including moisture, soil type, position on the slope, and type of species (deciduous or conifer). Available soil moisture, as an example, is an important condition affecting wildlife habitat. Bottom-land woodlands are throughout the county. They are in areas ranging from very small to the very large Momence Wetlands. Trees in these areas are adapted to slightly wet to very wet conditions. They include swamp white oak, bur oak, ash, hackberry, silver maple, sycamore, and hackberry.

A unique type of woodland in Kankakee County is the black oak savannah. This habitat type is typically in sandy and very sandy outwash areas. Pembroke Township has some of the best examples of this habitat type in the country. Because of the sandy nature of the soils in these areas, black oak savannahs developed under dry conditions and are extremely drought tolerant. Because the low available moisture typically results in less dense cover, a very diverse layer of nonwoody plants can develop in these areas. These nonwoody plants also are drought tolerant and can even thrive under conditions that result in occasional wildfires. As a result of occasional fires and stressful growing conditions, black oaks typically are misshapen and relatively short lived. However, these areas provide excellent wildlife habitat.

In the rest of the survey area, forestland occurs on soils that are neither overly wet nor too dry. Mesic woodlands are dominated by white oak, red oak, hickory, and ash. Various other tree species also occur throughout the county. White oak and red oak are extremely important for wildlife habitat. These trees produce huge amounts of mast (acorns) on which many wildlife species depend for fall and winter food. Acorns are a preferred food for both deer and turkey. Any large tree planting should include a good mix of hardwood tree and shrub species that produce both hard and soft (fruit) mast. Conifers can also be planted to provide additional shelter for wildlife, such as doves and turkeys.

Riverine habitat in Kankakee County is along the Iroquois and Kankakee Rivers and their tributaries. Much of this habitat is of high quality and supports numerous threatened and endangered plant and animal species. Great blue heron, red-winged blackbird, mink, beaver, muskrat, northern water snake, common snapping turtles, soft-shelled turtles, bull frogs, walleyed pike, river redhorse, quillback, and a wide assortment of other species use wetland habitat at one time or another.

Wetlands range from areas dominated by trees and shrubs, to cattail marshes, to areas of open water, such as rivers, ponds, and small lakes. Shallow water areas are typically very productive habitats that support large numbers and types of wildlife. They are dependent on large drainage areas or a high water table to keep them charged with water. Shallow water areas provide both food and shelter on a year-round basis and are commonly the focal point of an animal's life. They are very important for migrating waterfowl and shore birds. Cattails generally become dominant in many wetlands. Giant reed grass can also become dominant and may require remedial action. Both of these plant species can become so abundant that they reduce the quality of the habitat. Wetland plants have developed under wet conditions and have become adapted to conditions of excess moisture. Many landowners have taken advantage of the numerous government cost-sharing programs that are available to create small and medium sized shallow water areas. A reliable source of water must be available for the development of a wetland or pond. In some situations, a secondary water source should also be considered. Reliance on pumping is usually cost prohibitive and can require additional permits. An adequate drainage area is important for any wetland.

Cropland provides temporary habitat for much of the year. Certain species, such as pheasant and killdeer, can actually thrive with little other habitat provided they are able to successfully nest. Cropland can serve as a connection between areas of better habitat once the crops have emerged. Once the crops are removed and the soil is tilled, however, cropland can be a huge deterrent to the movement of wildlife. Animals need travel lanes with good cover so that they can move from one area to another. Such travel lanes help to ensure good distribution and genetic diversity. Wildlife species that tend to live in and around cropped areas include pheasants, killdeer, lark sparrow, kestrel, pocket gopher, white-tailed deer, and badgers.

Many factors should be considered when decisions are made about establishing a certain type of wildlife habitat. In addition to the soil type, these factors include available moisture, landowner interests, local wildlife needs, available cost sharing, specialized equipment needs, long-term management needs, and proximity to other habitat areas. Planting the habitat area is only the first step in establishing habitat. Planting trees requires herbicide application, mowing, and monitoring. Prairies require burning on a periodic basis to maintain their health and vigor. Depending on their complexity, wetlands may require numerous maintenance items.

Assistance with wildlife habitat projects is available from many governmental agencies, including the Illinois Department of Natural Resources, 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 16, 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 corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture 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, goldenrod, beggarweed, wheatgrass, and grama.

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, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian-olive, autumn-olive, and crabapple.

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, fir, cedar, 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 marshes, waterfowl feeding areas, and ponds.

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

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, 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, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and bear.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

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 17a and 17b 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 18a and 18b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil (fig. 11). 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

Figure 11.—An aerial view of an area sanitary landfill.

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 19a and 19b give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 19a, only the likelihood 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 Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 19b, the soils are rated *good, fair,* or *poor* as potential sources of reclamation material, roadfill, and topsoil. The features that limit the soils as sources of these materials are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, or topsoil. The lower the number, the greater the limitation.

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 whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Tables 20a, 20b, and 20c 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; constructing terraces and diversions; drainage; and irrigation. 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 are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways. A hazard of wind erosion, a low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

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

Drainage is 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.

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

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 21 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. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group 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 ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

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

The estimates of 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 22 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

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

The 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 (ovendry) 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 22, 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 22 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

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

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook” (USDA, NRCS).

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 23 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.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 23, 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.

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.

Water Features

Table 24 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.

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 24 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.

Water table refers to a saturated zone in the soil. Table 24 indicates the depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone for the specified *months* in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

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

Soil Features

Table 25 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. The table indicates the hardness of the restrictive layer, which can significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

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

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

Ablation till. Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

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.

Beach deposits. Material, such as sand and gravel, that is generally laid down parallel to an active or relict shoreline of a postglacial or glacial lake.

Beach ridge. A low, essentially continuous mound of beach or beach-and-dune material accumulated by the action of waves and currents on the backshore of a beach, beyond the present limit of storm waves or the reach of ordinary tides, and occurring singly or as one of a series of approximately parallel deposits. The ridges are roughly parallel to the shoreline and represent successive positions of an advancing shoreline.

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

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.

Blowout. A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed; the adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Bog. Waterlogged, spongy ground, consisting primarily of mosses, containing acidic, decaying vegetation (such as sphagnum, sedges, and heaths) that develops into peat.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

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.

Coprogenous earth (sedimentary peat). A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression. Any relatively sunken part of the Earth's surface; especially a low-lying area surrounded by higher ground. A closed depression has no natural outlet for surface drainage. An open depression has a natural outlet for surface drainage.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

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. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Drift. A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Dune. A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

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 deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

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. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Esker. A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Excess lime (in tables). Excess carbonates in the soil restrict the growth of some plants.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fine textured soil. Sandy clay, silty clay, or clay.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

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.

Geomorphology. The science that treats the general configuration of the earth's surface; specifically the study of the classification, description, nature, origin, and development of landforms and their relationships to underlying structures, and the history of geologic changes as recorded by these surface features. The term is especially applied to the genetic interpretation of landforms.

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

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. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

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.

Herbaceous peat. An accumulation of organic material, decomposed to some degree, which is predominantly the remains of sedges, reeds, cattails, and other herbaceous plants.

High-chroma zones. Zones having chroma of 3 or more. Typical color in areas of iron concentrations.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation include:

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Kame. A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake bed. The bottom of a lake; a lake basin.

Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Lakeshore. A narrow strip of land in contact with or bordering a lake; especially the beach of a lake.

Lamella. A thin (commonly less than 1 cm thick), discontinuous or continuous, generally horizontal layer of fine material (especially clay and iron oxides) that has been pedogenically concentrated (illuviated within a coarser textured eluviated layer several centimeters to several decimeters thick).

Landslide. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength. The soil is not strong enough to support loads.

Low-chroma zones. Zones having chroma of 2 or less. Typical color in areas of iron depletions.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

MAP. Mean annual precipitation, expressed in inches.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Mass movement. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses. See Redoximorphic features.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

MLRA (major land resource area). A geographic area characterized by a particular pattern of land 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. In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky peat. Unconsolidated soil material consisting primarily of organic matter that is in an intermediate stage of decomposition such that a significant part of the material can be recognized and a significant part of the material can not be recognized.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. See Redoximorphic features.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash. Stratified and sorted sediments (chiefly sand and gravel) removed or "washed out" from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain. An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Parts per million (ppm). The concentration of a substance in the soil, such as phosphorus or potassium, in one million parts of air-dried soil on a weight per weight basis.

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.

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.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:

A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*

B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*

C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.

2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:

A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*

B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).

3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Rise. A slight increase in elevation of the land surface, typically with a broad summit and gently sloping sides.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (K_{sat}). See Permeability.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

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.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief 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.

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, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsidence. The potential decrease in surface elevation as a result of the drainage of wet soils that have organic layers or semifluid, mineral layers. Subsidence, as a result of drainage, is attributed to (1) shrinkage from drying, (2) consolidation because of the loss of ground-water buoyancy, (3) compaction from tillage or manipulation, (4) wind erosion, (5) burning, and (6) biochemical oxidation.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Swale. A slight depression in the midst of generally level land. A shallow depression in an undulating ground moraine due to uneven glacial deposition.

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. An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain. An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth’s surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1971-2000 at Kankakee, Illinois)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	30.8	13.0	21.9	58	-18	0	1.85	0.76	2.91	4	9.0
February---	36.4	17.8	27.1	65	-11	2	1.66	.81	2.33	4	6.3
March------	48.0	28.1	38.0	78	5	30	2.77	1.46	3.87	6	2.6
April------	60.5	38.3	49.4	85	19	104	3.83	2.20	5.30	7	.9
May--------	72.6	49.1	60.8	92	32	347	4.60	2.59	6.66	7	.0
June-------	82.3	58.8	70.5	97	43	615	4.47	2.49	6.23	6	.0
July-------	85.7	63.3	74.5	100	50	758	4.37	2.56	5.93	6	.0
August-----	83.4	60.9	72.2	97	47	688	3.13	1.51	4.44	5	.0
September--	77.4	52.2	64.8	95	34	447	3.27	1.60	4.44	5	.0
October----	64.9	40.2	52.5	86	24	150	2.75	1.56	3.79	5	.0
November---	49.7	30.8	40.2	75	10	28	3.38	1.72	4.86	6	.9
December---	36.0	19.6	27.8	63	-10	4	2.50	1.22	3.68	5	6.3
Yearly:											
Average---	60.6	39.3	50.0	---	---	---	---	---	---	---	---
Extreme---	107	-29	---	100	-20	---	---	---	---	---	---
Total-----	---	---	---	---	---	3,171	38.57	33.41	42.89	66	26.1

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Kankakee, Illinois)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 12	Apr. 23	May 8
2 years in 10 later than--	Apr. 3	Apr. 10	Apr. 19
5 years in 10 later than--	Mar. 16	Mar. 25	Apr. 9
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 25	Oct. 8	Sept. 28
2 years in 10 earlier than--	Nov. 8	Oct. 23	Oct. 11
5 years in 10 earlier than--	Nov. 21	Nov. 13	Oct. 22

Table 3.--Growing Season

(Recorded in the period 1971-2000 at Kankakee, Illinois)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	203	175	143
8 years in 10	208	181	151
5 years in 10	222	200	174
2 years in 10	232	219	188
1 year in 10	235	226	193

Table 4.--Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
Ade	Coarse-loamy, mixed, superactive, mesic Lamellic Argiudolls
Adrian	Sandy or sandy-skeletal, mixed, euic, mesic Terric Haplosaprists
Alvin	Coarse-loamy, mixed, superactive, mesic Typic Hapludalfs
Ambraw	Fine-loamy, mixed, superactive, mesic Fluvaquentic Endoaquolls
Andres	Fine-loamy, mixed, superactive, mesic Aquic Argiudolls
Ashkum	Fine, mixed, superactive, mesic Typic Endoaquolls
Beardstown	Fine-loamy, mixed, superactive, mesic Udollic Endoaqualfs
Beecher	Fine, illitic, mesic Udollic Epiaqualfs
Bonfield	Loamy-skeletal, mixed, superactive, mesic Aquic Hapludolls
Braidwood	Coarse-loamy, mixed, subactive, calcareous, mesic Typic Udorthents
Brenton	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Bryce	Fine, mixed, superactive, mesic Vertic Endoaquolls
Channahon	Loamy, mixed, superactive, mesic Lithic Argiudolls
Chatsworth	Fine, illitic, mesic Oxyaquic Eutrudepts
Chelsea	Mixed, mesic Lamellic Udipsamments
Darroch	Fine-loamy, mixed, superactive, mesic Aquic Argiudolls
Dunham	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Elizabeth	Loamy-skeletal, mixed, superactive, mesic Lithic Hapludolls
Elliott	Fine, illitic, mesic Aquic Argiudolls
*Elliott	Fine, illitic, mesic Aquollic Hapludalfs
Faxon	Fine-loamy, mixed, superactive, mesic Typic Endoaquolls
Fieldon	Coarse-loamy, mixed, superactive, calcareous, mesic Typic Endoaquolls
Gilford	Coarse-loamy, mixed, superactive, mesic Typic Endoaquolls
Granby	Sandy, mixed, mesic Typic Endoaquolls
Grundelein	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Houghton	Euic, mesic Typic Haplosaprists
Jasper	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
*Jasper	Fine-loamy, mixed, superactive, mesic Mollic Hapludalfs
Kankakee	Loamy-skeletal, mixed, superactive, mesic Typic Hapludolls
La Hogue	Fine-loamy, mixed, superactive, mesic Aquic Argiudolls
Lawson	Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls
Lena	Euic, mesic Typic Haplosaprists
Markham	Fine, illitic, mesic Mollic Oxyaquic Hapludalfs
Martinsville	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Martinton	Fine, illitic, mesic Aquic Argiudolls
Milford	Fine, mixed, superactive, mesic Typic Endoaquolls
Millington	Fine-loamy, mixed, superactive, calcareous, mesic Cumulic Endoaquolls
Mokena	Fine-loamy, mixed, active, mesic Aquic Argiudolls
Morocco	Mixed, mesic Aquic Udipsamments
Oakville	Mixed, mesic Typic Udipsamments
Onarga	Coarse-loamy, mixed, superactive, mesic Typic Argiudolls
Orthents, clayey	Fine, mixed, active, nonacid, mesic Aquic Udorthents
Orthents, loamy	Fine-loamy, mixed, active, nonacid, mesic Oxyaquic Udorthents
Ozaukee	Fine, illitic, mesic Oxyaquic Hapludalfs
Pella	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Peotone	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
Plattville	Fine-loamy, mixed, active, mesic Typic Argiudolls
Reddick	Fine-loamy, mixed, superactive, mesic Typic Endoaquolls
Rensselaer	Fine-loamy, mixed, superactive, mesic Typic Argiaquolls
Ridgeville	Coarse-loamy, mixed, superactive, mesic Aquic Argiudolls
Ritchey	Loamy, mixed, superactive, mesic Lithic Hapludalfs
Rockton	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Sawmill	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Selma	Fine-loamy, mixed, superactive, mesic Typic Endoaquolls
Sparta	Sandy, mixed, mesic Entic Hapludolls
Swygert	Fine, mixed, active, mesic Aquic Argiudolls
*Swygert	Fine, mixed, active, mesic Aquollic Hapludalfs
Symerton	Fine-loamy, mixed, superactive, mesic Oxyaquic Argiudolls
*Symerton	Fine-loamy, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs

Table 4.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Tallmadge	Fine-loamy, mixed, superactive, mesic Typic Argiaquolls
Varna	Fine, illitic, mesic Oxyaquic Argiudolls
*Varna	Fine, illitic, mesic Mollic Oxyaquic Hapludalfs
Watseka	Sandy, mixed, mesic Aquic Hapludolls
Waupecan	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Whalan	Fine-loamy, mixed, superactive, mesic Typic Hapludalfs

Table 5.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
49A	Watseka loamy fine sand, 0 to 2 percent slopes	9,451	2.2
69A	Milford silty clay loam, 0 to 2 percent slopes	11,999	2.8
88B	Sparta loamy fine sand, 1 to 6 percent slopes	3,956	0.9
91A	Swygert silty clay loam, 0 to 2 percent slopes	705	0.2
91B2	Swygert silty clay loam, 2 to 4 percent slopes, eroded	356	*
98B	Ade loamy fine sand, 1 to 6 percent slopes	14,452	3.3
102A	La Hogue loam, 0 to 2 percent slopes	464	0.1
103A	Houghton muck, 0 to 2 percent slopes	38	*
125A	Selma loam, 0 to 2 percent slopes	7,935	1.8
131B	Alvin fine sandy loam, 2 to 5 percent slopes	1,018	0.2
146A	Elliott silt loam, 0 to 2 percent slopes	15,849	3.6
146B	Elliott silt loam, 2 to 4 percent slopes	9,666	2.2
146B2	Elliott silty clay loam, 2 to 4 percent slopes, eroded	725	0.2
149A	Brenton silt loam, 0 to 2 percent slopes	111	*
150A	Onarga fine sandy loam, 0 to 2 percent slopes	1,240	0.3
150B	Onarga fine sandy loam, 2 to 5 percent slopes	1,430	0.3
151A	Ridgeville fine sandy loam, 0 to 2 percent slopes	21,291	4.9
153A	Pella silty clay loam, 0 to 2 percent slopes	8,681	2.0
188A	Beardstown silt loam, 0 to 2 percent slopes	4,043	0.9
189A	Martinton silt loam, 0 to 2 percent slopes	2,085	0.5
201A	Gilford fine sandy loam, 0 to 2 percent slopes	31,196	7.2
210A	Lena muck, 0 to 2 percent slopes	299	*
223B	Varna silt loam, 2 to 4 percent slopes	4,933	1.1
223B2	Varna silt loam, 2 to 4 percent slopes, eroded	3,693	0.8
223C2	Varna silt loam, 4 to 6 percent slopes, eroded	60	*
223C3	Varna silty clay loam, 4 to 6 percent slopes, severely eroded	3,655	0.8
232A	Ashkum silty clay loam, 0 to 2 percent slopes	16,663	3.8
235A	Bryce silty clay, 0 to 2 percent slopes	2,416	0.6
240A	Plattville silt loam, 0 to 2 percent slopes	7,169	1.6
241C3	Chatsworth silty clay, 4 to 6 percent slopes, severely eroded	27	*
293A	Andres silt loam, 0 to 2 percent slopes	40,632	9.3
293B	Andres silt loam, 2 to 5 percent slopes	66	*
294A	Symerton silt loam, 0 to 2 percent slopes	6,379	1.5
294B	Symerton silt loam, 2 to 5 percent slopes	12,008	2.8
295A	Mokena silt loam, 0 to 2 percent slopes	1,324	0.3
298A	Beecher silt loam, 0 to 2 percent slopes	12,390	2.8
298B	Beecher silt loam, 2 to 4 percent slopes	3,608	0.8
311B	Ritchey silt loam, 2 to 4 percent slopes	301	*
311C	Ritchey silt loam, 4 to 6 percent slopes	259	*
311D	Ritchey silt loam, 6 to 12 percent slopes	642	0.1
315A	Channahon silt loam, 0 to 2 percent slopes	1,190	0.3
315B	Channahon silt loam, 2 to 4 percent slopes	761	0.2
315C2	Channahon silt loam, 4 to 6 percent slopes, eroded	75	*
330A	Peotone silty clay loam, 0 to 2 percent slopes	1,389	0.3
369A	Waupecan silt loam, 0 to 2 percent slopes	953	0.2
369B	Waupecan silt loam, 2 to 4 percent slopes	149	*
380A	Fieldon loam, 0 to 2 percent slopes	3,712	0.9
403E	Elizabeth silt loam, 12 to 20 percent slopes	11	*
403F	Elizabeth silt loam, 20 to 30 percent slopes	313	*
440A	Jasper loam, 0 to 2 percent slopes	3,611	0.8
440B	Jasper loam, 2 to 5 percent slopes	2,188	0.5
440C2	Jasper loam, 5 to 10 percent slopes, eroded	136	*
493A	Bonfield loam, 0 to 2 percent slopes	5,503	1.3
494A	Kankakee fine sandy loam, 0 to 2 percent slopes	3,204	0.7
494B	Kankakee fine sandy loam, 2 to 4 percent slopes	1,148	0.3
501A	Morocco loamy fine sand, 0 to 2 percent slopes	3,990	0.9
503A	Rockton silt loam, 0 to 2 percent slopes	10,448	2.4
503B	Rockton silt loam, 2 to 4 percent slopes	1,493	0.3
509A	Whalan silt loam, 0 to 2 percent slopes	648	0.1
509B	Whalan silt loam, 2 to 4 percent slopes	892	0.2

See footnote at end of table.

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
513A	Granby fine sandy loam, 0 to 2 percent slopes	12,790	2.9
516A	Faxon silt loam, 0 to 2 percent slopes	5,016	1.2
523A	Dunham silty clay loam, 0 to 2 percent slopes	960	0.2
526A	Grundelein silt loam, 0 to 2 percent slopes	303	*
530B	Ozaukee silt loam, 2 to 4 percent slopes	940	0.2
530C2	Ozaukee silt loam, 4 to 6 percent slopes, eroded	602	0.1
530C3	Ozaukee silty clay loam, 4 to 6 percent slopes, severely eroded	2,177	0.5
530D2	Ozaukee silt loam, 6 to 12 percent slopes, eroded	139	*
530D3	Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded	903	0.2
530E2	Ozaukee silt loam, 12 to 20 percent slopes, eroded	547	0.1
530F	Ozaukee silt loam, 20 to 30 percent slopes	381	*
531B	Markham silt loam, 2 to 4 percent slopes	5,038	1.2
531C2	Markham silt loam, 4 to 6 percent slopes, eroded	2,237	0.5
570B	Martinsville loam, 2 to 4 percent slopes	534	0.1
570C2	Martinsville loam, 4 to 6 percent slopes, eroded	590	0.1
570D2	Martinsville loam, 6 to 12 percent slopes, eroded	80	*
570E2	Martinsville loam, 12 to 20 percent slopes, eroded	54	*
570F	Martinsville loam, 20 to 30 percent slopes	237	*
594A	Reddick clay loam, 0 to 2 percent slopes	40,220	9.2
610A	Tallmadge sandy loam, 0 to 2 percent slopes	7,341	1.7
664A	Rensselaer sandy loam, 0 to 2 percent slopes	1,045	0.2
688B	Braidwood loam, 1 to 7 percent slopes	124	*
688D	Braidwood loam, 7 to 20 percent slopes	380	*
688G	Braidwood loam, 20 to 70 percent slopes	1,423	0.3
719A	Symerton fine sandy loam, 0 to 2 percent slopes	69	*
719B	Symerton fine sandy loam, 2 to 5 percent slopes	35	*
719C2	Symerton fine sandy loam, 5 to 10 percent slopes, eroded	83	*
740A	Darroch silt loam, 0 to 2 percent slopes	7,831	1.8
741B	Oakville fine sand, 1 to 6 percent slopes	10,198	2.3
741D	Oakville fine sand, 6 to 12 percent slopes	4,017	0.9
741E	Oakville fine sand, 12 to 20 percent slopes	194	*
741F	Oakville fine sand, 20 to 30 percent slopes	568	0.1
777A	Adrian muck, 0 to 2 percent slopes	773	0.2
779B	Chelsea loamy fine sand, 1 to 6 percent slopes	6,350	1.5
802B	Orthents, loamy, undulating	1,791	0.4
802F	Orthents, loamy, hilly	332	*
805B	Orthents, clayey, undulating	383	*
830	Landfills	164	*
864	Pits, quarry	824	0.2
865	Pits, gravel	4	*
3082A	Millington silt loam, 0 to 2 percent slopes, frequently flooded	182	*
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	4,732	1.1
3302A	Ambraw sandy loam, 0 to 2 percent slopes, frequently flooded	2,698	0.6
8302A	Ambraw loam, 0 to 2 percent slopes, occasionally flooded	2,369	0.5
8451A	Lawson silt loam, 0 to 2 percent slopes, occasionally flooded	93	*
W	Water	3,145	0.7
	Total	435,925	100.0

* Less than 0.1 percent.

Table 6.--Management Considerations on Cropland and Pastureland

(See text for a description of the limitations and hazards listed in this table. Only the map units that are generally available for use as cropland or pastureland are listed. Absence of an entry indicates that the map unit is generally unsuited to use as cropland or pastureland)

Map symbol and soil name	Management considerations on cropland	Management considerations on pastureland
49A:		
Watseka	Wetness, wind erosion, limited available water capacity, excessive permeability	Wetness, low pH, wind erosion, limited available water capacity, excessive permeability
69A:		
Milford	Ponding, poor tilth	Ponding, frost heave
88B:		
Sparta	Wind erosion, limited available water capacity, excessive permeability	Low pH, wind erosion, limited available water capacity, excessive permeability, low fertility
91A:		
Swygert	Wetness, root-restrictive layer, poor tilth, high pH, restricted permeability	Wetness, root-restrictive layer, high pH
91B2:		
Swygert	Wetness, root-restrictive layer, poor tilth, high pH, restricted permeability, water erosion	Wetness, root-restrictive layer, poor tilth, high pH, water erosion
98B:		
Ade	Wind erosion, excessive permeability	Low pH, wind erosion, excessive permeability
102A:		
La Hogue	Wetness	Wetness, low pH
103A:		
Houghton	Ponding, wind erosion, subsidence	Ponding, low pH, wind erosion, frost heave
125A:		
Selma	Ponding	Ponding, frost heave
131B:		
Alvin	Water erosion	Low pH, low fertility, water erosion
146A:		
Elliott	Wetness, root-restrictive layer, restricted permeability	Wetness, root-restrictive layer
146B:		
Elliott	Wetness, root-restrictive layer, high pH, restricted permeability, water erosion	Wetness, root-restrictive layer, high pH, water erosion

Table 6.--Management Considerations on Cropland and Pastureland--Continued

Map symbol and soil name	Management considerations on cropland	Management considerations on pastureland
146B2:		
Elliott	Wetness, root-restrictive layer, poor tilth, high pH, excess lime, restricted permeability, water erosion	Wetness, root-restrictive layer, poor tilth, high pH, water erosion
149A:		
Brenton	Wetness	Wetness
150A:		
Onarga	No major limitations	Low pH
150B:		
Onarga	Water erosion	Low pH, water erosion
151A:		
Ridgeville	Wetness	Wetness
153A:		
Pella	Ponding, high pH, poor tilth	Ponding, high pH, frost heave
188A:		
Beardstown	Wetness	Wetness, low pH
189A:		
Martinton	Wetness, high pH	Wetness, high pH
201A:		
Gilford	Ponding, excessive permeability	Ponding, frost heave, excessive permeability
210A:		
Lena	Ponding, excess lime, wind erosion, subsidence	Ponding, wind erosion, excess lime, frost heave
223B:		
Varna	Root-restrictive layer, high pH, restricted permeability, water erosion	Root-restrictive layer, high pH, water erosion
223B2:		
Varna	Root-restrictive layer, high pH, crusting, restricted permeability, water erosion	Root-restrictive layer, high pH, water erosion
223C2:		
Varna	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
223C3:		
Varna	Root-restrictive layer, poor tilth, high pH, water water restricted permeability	Root-restrictive layer, poor tilth, high pH, water erosion
232A:		
Ashkum	Ponding, poor tilth	Ponding, frost heave
235A:		
Bryce	Ponding, poor tilth, restricted permeability	Ponding, frost heave
240A:		
Plattville	No major limitations	No major limitations

Table 6.--Management Considerations on Cropland and Pastureland--Continued

Map symbol and soil name	Management considerations on cropland	Management considerations on pastureland
241C3:		
Chatsworth	---	Root-restrictive layer, poor tilth, water erosion, limited available water capacity, low fertility, excess lime
293A:		
Andres	Wetness, restricted permeability	Wetness
293B:		
Andres	Wetness, water erosion, restricted permeability	Wetness
294A:		
Symerton	No major limitations	No major limitations
294B:		
Symerton	High pH, excess lime, water erosion, restricted permeability	High pH, water erosion
295A:		
Mokena	Wetness, root-restrictive layer, restricted permeability	Wetness, root-restrictive layer
298A:		
Beecher	Wetness, root-restrictive layer, high pH, restricted permeability	Wetness, root-restrictive layer, low pH
298B:		
Beecher	Wetness, root-restrictive layer, high pH, water erosion, restricted permeability	Wetness, root-restrictive layer, low pH, water erosion
311B:		
Ritchey	Depth to bedrock, excess lime, crusting, water erosion, limited available water capacity, restricted permeability	Depth to bedrock, limited available water capacity, excess lime, water erosion
311C:		
Ritchey	Depth to bedrock, excess lime, crusting, water erosion, limited available water capacity, restricted permeability	Depth to bedrock, water erosion, limited available water capacity, excess lime, water erosion
311D:		
Ritchey	Depth to bedrock, excess lime, crusting, water erosion, limited available water capacity, restricted permeability	Depth to bedrock, water erosion, limited available water capacity, excess lime, water erosion
315A:		
Channahon	Depth to bedrock, excess lime, limited available water capacity, restricted permeability	Depth to bedrock, limited available water capacity, excess lime

Table 6.--Management Considerations on Cropland and Pastureland--Continued

Map symbol and soil name	Management considerations on cropland	Management considerations on pastureland
315B:		
Channahon	Depth to bedrock, excess lime, limited available water capacity, restricted permeability, water erosion	Depth to bedrock, limited available water capacity, excess lime, water erosion
315C2:		
Channahon	Depth to bedrock, excess lime, crusting, water erosion, limited available water capacity, restricted permeability	Depth to bedrock, water erosion, limited available water capacity, excess lime
330A:		
Peotone	Ponding, poor tilth	Ponding, frost heave
369A:		
Waupecan	Excessive permeability	Excessive permeability
369B:		
Waupecan	Water erosion, excessive permeability	Excessive permeability, water erosion
380A:		
Fieldon	Ponding, excess lime, excessive permeability	Ponding, excess lime, frost heave, excessive permeability
403E, 403F:		
Elizabeth	---	---
440A:		
Jasper	No major limitations	Low pH
440B:		
Jasper	Water erosion	Low pH, water erosion
440C2:		
Jasper	Water erosion	Low pH, water erosion
493A:		
Bonfield	Wetness, high pH	Wetness, high pH
494A:		
Kankakee	High pH	High pH
494B:		
Kankakee	High pH, water erosion	High pH, water erosion
501A:		
Morocco	Wetness, wind erosion, limited available water capacity, excessive permeability	Wetness, low pH, wind erosion, limited available water capacity, low fertility, excessive permeability
503A:		
Rockton	Depth to bedrock, restricted permeability	Depth to bedrock
503B:		
Rockton	Depth to bedrock, limited available water capacity, restricted permeability, water erosion	Depth to bedrock, limited available water capacity, water erosion

Table 6.--Management Considerations on Cropland and Pastureland--Continued

Map symbol and soil name	Management considerations on cropland	Management considerations on pastureland
509A:		
Whalan	Depth to bedrock, crusting, limited available water capacity, restricted permeability	Depth to bedrock, limited available water capacity
509B:		
Whalan	Depth to bedrock, crusting, water erosion, limited available water capacity, restricted permeability	Depth to bedrock, limited available water capacity, water erosion
513A:		
Granby	Ponding, limited available water capacity, excessive permeability	Ponding, limited available water capacity, frost heave, excessive permeability
516A:		
Faxon	Ponding, depth to bedrock, limited available water capacity	Ponding, depth to bedrock, limited available water capacity, frost heave
523A:		
Dunham	Ponding, excessive permeability, poor tilth	Ponding, frost heave, excessive permeability
526A:		
Grundelein	Wetness, excessive permeability	Wetness, excessive permeability
530B:		
Ozaukee	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
530C2:		
Ozaukee	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
530C3:		
Ozaukee	Root-restrictive layer, poor tilth, high pH, water erosion, restricted permeability	Root-restrictive layer, poor tilth, high pH, water erosion, low fertility
530D2:		
Ozaukee	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
530D3:		
Ozaukee	Root-restrictive layer, poor tilth, high pH, water erosion, restricted permeability	Root-restrictive layer, poor tilth, high pH, water erosion, low fertility,
530E2:		
Ozaukee	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Equipment limitation, root-restrictive layer, high pH, water erosion

Table 6.--Management Considerations on Cropland and Pastureland--Continued

Map symbol and soil name	Management considerations on cropland	Management considerations on pastureland
530F:		
Ozaukee------------------	---	Equipment limitation, root-restrictive layer, high pH, water erosion
531B:		
Markham------------------	Root-restrictive layer, high pH, water erosion, restricted permeability	Root-restrictive layer, low pH, water erosion
531C2:		
Markham------------------	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, low pH, water erosion
570B:		
Martinsville-------------	Water erosion	Low pH, water erosion
570C2:		
Martinsville-------------	Water erosion	Low pH, water erosion
570D2:		
Martinsville-------------	Water erosion	Low pH, water erosion
570E2:		
Martinsville-------------	Water erosion	Equipment limitation, low pH, water erosion
570F:		
Martinsville-------------	---	Equipment limitation, low pH, water erosion
594A:		
Reddick------------------	Ponding, restricted permeability, poor tilth	Ponding, frost heave
610A:		
Tallmadge----------------	Ponding	Ponding, frost heave
664A:		
Rensselaer---------------	Ponding	Ponding, frost heave
688B:		
Braidwood----------------	Excess lime, crusting, water erosion	Water erosion, low fertility excess lime
688D:		
Braidwood----------------	---	Water erosion, low fertility, excess lime, equipment . limitation
688G:		
Braidwood----------------	---	---
719A:		
Symerton-----------------	High pH	High pH
719B:		
Symerton-----------------	High pH, restricted permeability, water erosion	High pH, water erosion

Table 6.--Management Considerations on Cropland and Pastureland--Continued

Map symbol and soil name	Management considerations on cropland	Management considerations on pastureland
719C2:		
Symerton	High pH, water erosion, restricted permeability	High pH, water erosion
740A:		
Darroch	Wetness, high pH	Wetness, high pH
741B:		
Oakville	Wind erosion, limited available water capacity, excessive permeability	Low pH, wind erosion, limited available water capacity, low fertility, excessive permeability
741D:		
Oakville	---	Low pH, wind erosion, limited available water capacity, low fertility, excessive permeability
741E:		
Oakville	---	Equipment limitation, low pH, wind erosion, limited available water capacity, low fertility, excessive permeability
777A:		
Adrian	Ponding, wind erosion, subsidence, excessive permeability	Ponding, low pH, wind erosion, frost heave, excessive permeability
779B:		
Chelsea	Wind erosion, excessive permeability	Low pH, wind erosion, low fertility, excessive permeability
802B:		
Orthents, loamy	Crusting, water erosion	Water erosion
802F:		
Orthents, loamy	---	Equipment limitation, water erosion
805B:		
Orthents, clayey	Poor tilth, water erosion, limited available water capacity, restricted permeability	Poor tilth, water erosion, limited available water capacity
3082A:		
Millington	Flooding, ponding, excess lime	Flooding, ponding, excess lime, frost heave
3107A:		
Sawmill	Flooding, ponding, poor tilth	Flooding, ponding, frost heave
3302A:		
Ambraw	Flooding, ponding	Flooding, ponding, low pH, frost heave
8302A:		
Ambraw	Flooding, ponding	Flooding, ponding, low pH, frost heave

Table 6.--Management Considerations on Cropland and Pastureland--Continued

Map symbol and soil name	Management considerations on cropland	Management considerations on pastureland
8451A:		
Lawson-----------------	Flooding, wetness	Flooding, wetness

Table 7.--Land Capability and Yields per Acre of Crops and Pasture

(Yields for corn, soybeans, winter wheat, oats, and grass-legume hay are those that can be expected under an optimum level of management. Yields for grass-legume pasture are those that can be expected under an average level of management. All yields are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
49A:							
Watseka	3s	110	37	46	55	4.0	5.8
69A:							
Milford	2w	154	51	61	79	5.0	7.3
88B:							
Sparta	4s	106	37	45	51	3.6	5.2
91A:							
Swygert	2w	143	47	57	71	4.1	6.0
91B2:							
Swygert	2e	133	44	53	66	3.8	5.6
98B:							
Ade	3s	121	42	51	62	3.8	5.6
102A:							
La Hogue	1	146	47	64	72	4.8	7.0
103A:							
Houghton	3w	158	52	---	---	---	7.0
125A:							
Selma	2w	157	51	62	80	4.8	7.0
131B:							
Alvin	2e	134	44	52	66	3.4	4.9
146A:							
Elliott	2w	151	50	61	78	4.5	6.7
146B:							
Elliott	2e	149	50	60	77	4.5	6.5
146B2:							
Elliott	2e	143	48	58	74	4.3	6.3
149A:							
Brenton	1	176	54	67	95	5.1	7.5
150A:							
Onarga	2s	134	43	55	69	3.7	5.5
150B:							
Onarga	2e	133	43	54	68	3.7	5.4
151A:							
Ridgeville	2s	136	46	57	70	4.5	6.7
153A:							
Pella	2w	165	54	63	82	4.8	7.0

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
188A:							
Beardstown	2w	137	45	57	70	4.4	6.5
189A:							
Martinton	2w	156	52	63	79	4.9	7.2
201A:							
Gilford	2w	133	44	53	66	4.1	6.0
210A:							
Lena	3w	154	49	---	---	---	6.3
223B:							
Varna	2e	141	45	57	70	4.4	6.4
223B2:							
Varna	2e	135	43	55	67	4.2	6.1
223C2:							
Varna	3e	133	42	55	67	4.1	5.9
223C3:							
Varna	4e	122	39	50	61	3.8	5.4
232A:							
Ashkum	2w	154	51	59	77	4.6	6.8
235A:							
Bryce	2w	146	49	58	73	4.3	6.3
240A:							
Plattville	1	145	47	59	80	4.5	6.7
241C3:							
Chatsworth	6e	---	---	---	---	2.2	3.6
293A:							
Andres	1	166	53	64	87	4.9	7.2
293B:							
Andres	2e	164	52	63	86	4.8	7.0
294A:							
Symerton	1	161	50	62	82	5.6	8.3
294B:							
Symerton	2e	159	50	61	81	5.6	8.2
295A:							
Mokena	2w	155	49	60	79	4.4	6.5
298A:							
Beecher	2w	137	46	55	71	4.2	6.2
298B:							
Beecher	2e	136	46	54	70	4.1	6.0
311B:							
Ritchey	3e	99	34	42	51	3.1	4.6

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
311C: Ritchey	3e	96	33	40	50	3.0	4.4
311D: Ritchey	4e	90	30	38	47	2.8	4.2
315A: Channahon	3s	103	35	44	55	3.3	4.8
315B: Channahon	3e	102	35	44	54	3.2	4.7
315C2: Channahon	4e	93	32	40	50	3.0	4.4
330A: Peotone	2w	148	49	55	70	4.5	6.7
369A: Waupecan	1	170	53	67	92	6.2	9.2
369B: Waupecan	2e	168	52	66	91	6.2	9.0
380A: Fieldon	2w	136	46	54	71	4.5	6.7
403E: Elizabeth	7s	---	---	---	---	---	3.9
403F: Elizabeth	7s	---	---	---	---	---	3.2
440A: Jasper	1	158	51	64	85	5.2	7.7
440B: Jasper	2e	156	50	63	84	5.2	7.5
440C2: Jasper	3e	147	47	60	79	4.8	7.0
493A: Bonfield	2s	148	49	58	75	4.3	6.3
494A: Kankakee	2s	138	46	58	69	4.5	6.7
494B: Kankakee	2e	137	46	57	68	4.5	6.6
501A: Morocco	4s	101	35	45	53	4.0	5.8
503A: Rockton	2s	121	41	53	68	3.5	5.2
503B: Rockton	2e	120	41	52	67	3.5	5.1

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
509A:							
Whalan	2s	111	35	45	59	2.7	4.0
509B:							
Whalan	2e	110	35	45	58	2.7	3.9
513A:							
Granby	3w	125	45	54	61	4.0	5.8
516A:							
Faxon	3w	139	46	53	73	4.1	6.0
523A:							
Dunham	2w	160	52	62	81	4.8	7.0
526A:							
Grundelein	1	168	55	64	88	4.8	7.0
530B:							
Ozaukee	2e	134	42	53	71	3.4	4.9
530C2:							
Ozaukee	2e	126	39	50	67	3.2	4.6
530C3:							
Ozaukee	3e	116	36	46	62	2.9	4.2
530D2:							
Ozaukee	3e	117	36	47	62	2.9	4.2
530D3:							
Ozaukee	4e	107	33	43	57	2.7	3.8
530E2:							
Ozaukee	4e	109	34	44	59	2.7	3.9
530F:							
Ozaukee	6e	---	---	---	---	2.6	3.7
531B:							
Markham	2e	139	45	54	70	3.7	5.4
531C2:							
Markham	3e	130	42	51	66	3.5	5.0
570B:							
Martinsville	2e	139	44	56	67	4.0	5.9
570C2:							
Martinsville	2e	130	41	53	64	3.8	5.5
570D2:							
Martinsville	3e	130	41	53	63	3.8	5.5
570E2:							
Martinsville	4e	118	37	48	57	3.4	4.9
570F:							
Martinsville	6e	---	---	---	---	3.1	4.4

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
594A:							
Reddick-------------	2w	159	51	60	80	4.6	6.8
610A:							
Tallmadge-----------	2w	141	46	55	72	4.4	6.3
664A:							
Rensselaer----------	2w	160	52	63	82	5.0	7.1
688B:							
Braidwood-----------	2e	79	24	27	48	3.4	5.6
688D:							
Braidwood-----------	6e	---	---	---	---	3.0	5.0
688G:							
Braidwood-----------	7e	---	---	---	---	---	2.4
719A:							
Symerton------------	1	156	49	60	80	5.4	8.0
719B:							
Symerton------------	2e	154	49	59	79	5.3	7.9
719C2:							
Symerton------------	3e	145	46	56	74	5.0	7.4
740A:							
Darroch-------------	2w	159	50	62	82	4.6	6.8
741B:							
Oakville------------	4s	95	34	42	47	3.2	4.7
741D:							
Oakville------------	6s	---	---	---	---	3.0	4.3
741E:							
Oakville------------	6s	---	---	---	---	2.7	3.8
741F:							
Oakville------------	7s	---	---	---	---	---	3.6
777A:							
Adrian--------------	3w	132	44	---	---	---	5.8
779B:							
Chelsea-------------	4s	94	29	42	49	3.2	4.7
802B:							
Orthents, loamy-----	2e	93	32	35	55	3.7	4.7
802F:							
Orthents, loamy-----	6e	---	---	---	---	3.0	3.8
805B:							
Orthents, clayey----	3e	84	29	31	51	3.3	4.2
830.							
Landfills							

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
864, 865. Pits							
3082A: Millington	2w	139	44	---	---	4.1	6.2
3107A: Sawmill	3w	153	49	---	---	4.7	6.9
3302A: Ambraw	3w	124	41	---	---	4.0	6.0
8302A: Ambraw	2w	138	45	55	68	4.5	6.7
8451A: Lawson	2w	171	55	66	87	5.2	7.7

*Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five goats, or five sheep) for 30 days.

Table 8.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
69A	Milford silty clay loam, 0 to 2 percent slopes (where drained)
91A	Swygert silty clay loam, 0 to 2 percent slopes
91B2	Swygert silty clay loam, 2 to 4 percent slopes, eroded
102A	La Hogue loam, 0 to 2 percent slopes
125A	Selma loam, 0 to 2 percent slopes (where drained)
131B	Alvin fine sandy loam, 2 to 5 percent slopes
146A	Elliott silt loam, 0 to 2 percent slope
146B	Elliott silt loam, 2 to 4 percent slopes
146B2	Elliott silty clay loam, 2 to 4 percent slopes, eroded
149A	Brenton silt loam, 0 to 2 percent slopes
150A	Onarga fine sandy loam, 0 to 2 percent slopes
150B	Onarga fine sandy loam, 2 to 5 percent slopes
151A	Ridgeville fine sandy loam, 0 to 2 percent slopes
153A	Pella silty clay loam, 0 to 2 percent slopes (where drained)
188A	Beardstown silt loam, 0 to 2 percent slopes (where drained)
189A	Martinton silt loam, 0 to 2 percent slopes
201A	Gilford fine sandy loam, 0 to 2 percent slopes (where drained)
223B	Varna silt loam, 2 to 4 percent slopes
223B2	Varna silt loam, 2 to 4 percent slopes, eroded
223C2	Varna silt loam, 4 to 6 percent slopes, eroded
232A	Ashkum silty clay loam, 0 to 2 percent slopes (where drained)
235A	Bryce silty clay, 0 to 2 percent slopes (where drained)
240A	Plattville silt loam, 0 to 2 percent slopes
293A	Andres silt loam, 0 to 2 percent slopes
293B	Andres silt loam, 2 to 5 percent slopes
294A	Symerton silt loam, 0 to 2 percent slopes
294B	Symerton silt loam, 2 to 5 percent slopes
295A	Mokena silt loam, 0 to 2 percent slopes
298A	Beecher silt loam, 0 to 2 percent slopes (where drained)
298B	Beecher silt loam, 2 to 4 percent slopes
330A	Peotone silty clay loam, 0 to 2 percent slopes (where drained)
369A	Waupecan silt loam, 0 to 2 percent slopes
369B	Waupecan silt loam, 2 to 4 percent slopes
380A	Fieldon loam, 0 to 2 percent slopes (where drained)
440A	Jasper loam, 0 to 2 percent slopes
440B	Jasper loam, 2 to 5 percent slopes
440C2	Jasper loam, 5 to 10 percent slopes, eroded
493A	Bonfield loam, 0 to 2 percent slopes
494A	Kankakee fine sandy loam, 0 to 2 percent slopes
494B	Kankakee fine sandy loam, 2 to 4 percent slopes
503A	Rockton silt loam, 0 to 2 percent slopes
503B	Rockton silt loam, 2 to 4 percent slopes
509A	Whalan silt loam, 0 to 2 percent slopes
509B	Whalan silt loam, 2 to 4 percent slopes
516A	Faxon silt loam, 0 to 2 percent slopes (where drained)
523A	Dunham silty clay loam, 0 to 2 percent slopes (where drained)
526A	Grundelein silt loam, 0 to 2 percent slopes
530B	Ozaukee silt loam, 2 to 4 percent slopes
530C2	Ozaukee silt loam, 4 to 6 percent slopes, eroded
531B	Markham silt loam, 2 to 4 percent slopes
531C2	Markham silt loam, 4 to 6 percent slopes, eroded
570B	Martinsville loam, 2 to 4 percent slopes
570C2	Martinsville loam, 4 to 6 percent slopes, eroded
594A	Reddick clay loam, 0 to 2 percent slopes (where drained)
610A	Tallmadge sandy loam, 0 to 2 percent slopes (where drained)
664A	Rensselaer sandy loam, 0 to 2 percent slopes (where drained)
688B	Braidwood loam, 1 to 7 percent slopes
719A	Symerton fine sandy loam, 0 to 2 percent slopes
719B	Symerton fine sandy loam, 2 to 5 percent slopes
719C2	Symerton fine sandy loam, 5 to 10 percent slopes, eroded

Table 8.--Prime Farmland--Continued

Map symbol	Soil name
740A	Darroch silt loam, 0 to 2 percent slopes
3082A	Millington silt loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3302A	Ambraw sandy loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
8302A	Ambraw loam, 0 to 2 percent slopes, occasionally flooded (where drained)
8451A	Lawson silt loam, 0 to 2 percent slopes, occasionally flooded

Table 9.--Hydric Soils

(Only the map units that have hydric components are listed. See text for a description of hydric qualities and definitions of the codes in the Hydric criteria column)

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
49A:				
Watseka loamy fine sand, 0 to 2 percent slopes	Watseka	stream terrace, outwash plain	No	---
	Granby	outwash plain, lake terrace	Yes	2B3
69A:				
Milford silty clay loam, 0 to 2 percent slopes	Milford	lake plain	Yes	2B3
88B:				
Sparta loamy fine sand, 1 to 6 percent slopes	Sparta	outwash plain	No	---
	Gilford	outwash plain	Yes	2B3
	Granby	outwash plain, lake terrace	Yes	2B3
91A:				
Swygert silty clay loam, 0 to 2 percent slopes	Swygert	ground moraine, end moraine	No	---
	Bryce	ground moraine, glacial lake	Yes	2B3
91B2:				
Swygert silty clay loam, 2 to 4 percent slopes, eroded	Swygert	ground moraine, end moraine	No	---
	Bryce	ground moraine, glacial lake	Yes	2B3
98B:				
Ade loamy fine sand, 1 to 6 percent slopes	Ade	outwash plain, stream terrace	No	---
	Gilford	outwash plain	Yes	2B3
102A:				
La Hogue loam, 0 to 2 percent slopes	La Hogue	outwash plain, stream terrace	No	---
	Rensselaer	outwash plain, stream terrace	Yes	2B3
	Selma	outwash plain, stream terrace	Yes	2B3
103A:				
Houghton muck, 0 to 2 percent slopes	Houghton	ground moraine, outwash plain	Yes	1,3
125A:				
Selma loam, 0 to 2 percent slopes	Selma	outwash plain, stream terrace	Yes	2B3
131B:				
Alvin fine sandy loam, 2 to 5 percent slopes	Alvin	outwash plain, stream terrace	No	---
	Selma	outwash plain, stream terrace	Yes	2B3
146A:				
Elliott silt loam, 0 to 2 percent slopes	Elliott	ground moraine, end moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
146B:				
Elliott silt loam, 2 to 4 percent slopes	Elliott	ground moraine, end moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
146B2:				
Elliott silty clay loam, 2 to 4 percent slopes, eroded	Elliott	ground moraine, end moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
149A:				
Brenton silt loam, 0 to 2 percent slopes	Brenton	outwash plain, stream terrace	No	---
	Drummer	outwash plain, ground moraine	Yes	2B3
	Pella	outwash plain, ground moraine, lake plain	Yes	2B3
150A:				
Onarga fine sandy loam, 0 to 2 percent slopes	Onarga	outwash plain, stream terrace	No	---
	Gilford	outwash plain	Yes	2B3
150B:				
Onarga fine sandy loam, 2 to 5 percent slopes	Onarga	outwash plain, stream terrace	No	---
	Gilford	outwash plain	Yes	2B3
151A:				
Ridgeville fine sandy loam, 0 to 2 percent slopes	Ridgeville	outwash plain, stream terrace	No	---
	Gilford	outwash plain	Yes	2B3
153A:				
Pella silty clay loam, 0 to 2 percent slopes	Pella	outwash plain, ground moraine, lake plain	Yes	2B3
188A:				
Beardstown silt loam, 0 to 2 percent slopes	Beardstown	outwash plain, stream terrace	No	---
	Gilford	outwash plain	Yes	2B3
	Selma	outwash plain, stream terrace	Yes	2B3
189A:				
Martinton silt loam, 0 to 2 percent slopes	Martinton	lake plain	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
	Milford	lake plain	Yes	2B3
201A:				
Gilford fine sandy loam, 0 to 2 percent slopes	Gilford	outwash plain	Yes	2B3
210A:				
Lena muck, 0 to 2 percent slopes	Lena	ground moraine, outwash plain	Yes	1,3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
223B:				
Varna silt loam, 2 to 4 percent slopes	Varna	ground moraine, end moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
223B2:				
Varna silt loam, 2 to 4 percent slopes, eroded	Varna	ground moraine, end moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
223C2:				
Varna silt loam, 4 to 6 percent slopes, eroded	Varna	ground moraine, end moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
223C3:				
Varna silty clay loam, 4 to 6 percent slopes, severely eroded	Varna	end moraine, ground moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
232A:				
Ashkum silty clay loam, 0 to 2 percent slopes	Ashkum	ground moraine, end moraine	Yes	2B3
235A:				
Bryce silty clay, 0 to 2 percent slopes	Bryce	ground moraine, glacial lake	Yes	2B3
	Rantoul	ground moraine, lake plain	Yes	2B3,3
240A:				
Plattville silt loam, 0 to 2 percent slopes	Plattville	ground moraine, outwash plain	No	---
	Tallmadge	ground moraine, outwash plain	Yes	2B3
241C3:				
Chatsworth silty clay, 4 to 6 percent slopes, severely eroded	Chatsworth	ground moraine, end moraine	No	---
	Bryce	ground moraine, glacial lake	Yes	2B3
293A:				
Andres silt loam, 0 to 2 percent slopes	Andres	ground moraine, lake plain	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
293B:				
Andres silt loam, 2 to 5 percent slopes	Andres	ground moraine, lake plain	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
294A:				
Symerton silt loam, 0 to 2 percent slopes	Symerton	ground moraine, lake plain	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
294B:				
Symerton silt loam, 2 to 5 percent slopes	Symerton	ground moraine, lake plain	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
295A:				
Mokena silt loam, 0 to 2 percent slopes	Mokena	ground moraine, lake plain	No	---
	Bryce	ground moraine, glacial lake	Yes	2B3
298A:				
Beecher silt loam, 0 to 2 percent slopes	Beecher	ground moraine, end moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
298B:				
Beecher silt loam, 2 to 4 percent slopes	Beecher	ground moraine, end moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
311B:				
Ritchey silt loam, 2 to 4 percent slopes	Ritchey	stream terrace	No	---
	Tallmadge	ground moraine, outwash plain	Yes	2B3
330A:				
Peotone silty clay loam, 0 to 2 percent slopes	Peotone	ground moraine	Yes	2B3
369A:				
Waupecan silt loam, 0 to 2 percent slopes	Waupecan	outwash plain, stream terrace	No	---
	Dunham	outwash plain, stream terrace	Yes	2B3
369B:				
Waupecan silt loam, 2 to 4 percent slopes	Waupecan	outwash plain, stream terrace	No	---
	Dunham	outwash plain, stream terrace	Yes	2B3
380A:				
Fieldon loam, 0 to 2 percent slopes	Fieldon	outwash plain	Yes	2B3
440A:				
Jasper loam, 0 to 2 percent slopes	Jasper	outwash plain	No	---
	Selma	outwash plain, stream terrace	Yes	2B3
440B:				
Jasper loam, 2 to 5 percent slopes	Jasper	outwash plain	No	---
	Selma	outwash plain, stream terrace	Yes	2B3
440C2:				
Jasper loam, 5 to 10 percent slopes, eroded	Jasper	outwash plain	No	---
	Selma	outwash plain, stream terrace	Yes	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
493A:				
Bonfield loam, 0 to 2 percent slopes	Bonfield	outwash plain, stream terrace	No	---
	Fieldon	outwash plain	Yes	2B3
	Gilford	outwash plain	Yes	2B3
	Tallmadge	ground moraine, outwash plain	Yes	2B3
494A:				
Kankakee fine sandy loam, 0 to 2 percent slopes	Kankakee	outwash plain, stream terrace	No	---
	Gilford	outwash plain	Yes	2B3
	Tallmadge	ground moraine, outwash plain	Yes	2B3
494B:				
Kankakee fine sandy loam, 2 to 4 percent slopes	Kankakee	outwash plain, stream terrace	No	---
	Gilford	outwash plain	Yes	2B3
	Tallmadge	ground moraine, outwash plain	Yes	2B3
	Will	outwash plain, stream terrace	Yes	2B3
501A:				
Morocco loamy fine sand, 0 to 2 percent slopes	Morocco	stream terrace, outwash plain	No	---
	Granby	outwash plain, lake terrace	Yes	2B3
503A:				
Rockton silt loam, 0 to 2 percent slopes	Rockton	ground moraine, outwash plain	No	---
	Faxon	outwash plain, stream terrace	Yes	2B3
	Tallmadge	ground moraine, outwash plain	Yes	2B3
503B:				
Rockton silt loam, 2 to 4 percent slopes	Rockton	ground moraine, outwash plain	No	---
	Faxon	outwash plain, stream terrace	Yes	2B3
	Tallmadge	ground moraine, outwash plain	Yes	2B3
509A:				
Whalan silt loam, 0 to 2 percent slopes	Whalan	ground moraine, outwash plain	No	---
	Faxon	outwash plain, stream terrace	Yes	2B3
509B:				
Whalan silt loam, 2 to 4 percent slopes	Whalan	ground moraine, outwash plain	No	---
	Faxon	outwash plain, stream terrace	Yes	2B3
513A:				
Granby fine sandy loam, 0 to 2 percent slopes	Granby	outwash plain, lake terrace	Yes	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
516A:				
Faxon silt loam, 0 to 2 percent slopes	Faxon	outwash plain, stream terrace	Yes	2B3
523A:				
Dunham silty clay loam, 0 to 2 percent slopes	Dunham	outwash plain, stream terrace	Yes	2B3
526A:				
Grundelein silt loam, 0 to 2 percent slopes	Grundelein	outwash plain, stream terrace	No	---
	Dunham	outwash plain, stream terrace	Yes	2B3
530B:				
Ozaukee silt loam, 2 to 4 percent slopes	Ozaukee	ground moraine, end moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
530C2:				
Ozaukee silt loam, 4 to 6 percent slopes, eroded	Ozaukee	end moraine, ground moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
530C3:				
Ozaukee silty clay loam, 4 to 6 percent slopes, severely eroded	Ozaukee	end moraine, ground moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
530D2:				
Ozaukee silt loam, 6 to 12 percent slopes, eroded	Ozaukee	end moraine, ground moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
530D3:				
Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded	Ozaukee	end moraine, ground moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
530E2:				
Ozaukee silt loam, 12 to 20 percent slopes, eroded	Ozaukee	ground moraine, end moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
530F:				
Ozaukee silt loam, 20 to 30 percent slopes	Ozaukee	end moraine, ground moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
531B:				
Markham silt loam, 2 to 4 percent slopes	Markham	ground moraine, end moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
531C2:				
Markham silt loam, 4 to 6 percent slopes, eroded	Markham	ground moraine, end moraine	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
570B:				
Martinsville loam, 2 to 4 percent slopes	Martinsville	outwash plain, stream terrace	No	---
	Selma	outwash plain, stream terrace	Yes	2B3
570C2:				
Martinsville loam, 4 to 6 percent slopes, eroded	Martinsville	outwash plain, stream terrace	No	---
	Selma	outwash plain, stream terrace	Yes	2B3
594A:				
Reddick clay loam, 0 to 2 percent slopes	Reddick	ground moraine, lake plain	Yes	2B3
610A:				
Tallmadge sandy loam, 0 to 2 percent slopes	Tallmadge	ground moraine, outwash plain	Yes	2B3
664A:				
Rensselaer sandy loam, 0 to 2 percent slopes	Rensselaer	outwash plain, stream terrace	Yes	2B3
719A:				
Symerton fine sandy loam, 0 to 2 percent slopes	Symerton	ground moraine, lake plain	No	---
	Gilford	outwash plain	Yes	2B3
719B:				
Symerton fine sandy loam, 2 to 5 percent slopes	Symerton	ground moraine, lake plain	No	---
	Gilford	outwash plain	Yes	2B3
719C2:				
Symerton fine sandy loam, 5 to 10 percent slopes, eroded	Symerton	ground moraine, lake plain	No	---
	Gilford	outwash plain	Yes	2B3
740A:				
Darroch silt loam, 0 to 2 percent slopes	Darroch	outwash plain	No	---
	Selma	outwash plain, stream terrace	Yes	2B3
741B:				
Oakville fine sand, 1 to 6 percent slopes	Oakville	outwash plain	No	---
	Granby	outwash plain, lake terrace	Yes	2B3
777A:				
Adrian muck, 0 to 2 percent slopes	Adrian	depression, outwash plain	Yes	1,3
779B:				
Chelsea loamy fine sand, 1 to 6 percent slopes	Chelsea	outwash plain	No	---
	Gilford	outwash plain	Yes	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
802B:				
Orthents, loamy, undulating	Orthents	outwash plain, ground moraine	No	---
	Drummer	outwash plain, ground moraine	Yes	2B3
	Pella	outwash plain, ground moraine, lake plain	Yes	2B3
805B:				
Orthents, clayey, undulating	Orthents	ground moraine, lake plain	No	---
	Ashkum	ground moraine, end moraine	Yes	2B3
	Houghton	ground moraine, outwash plain	Yes	1,3
	Peotone	ground moraine	Yes	2B3
3082A:				
Millington silt loam, 0 to 2 percent slopes, frequently flooded	Millington	flood plain	Yes	2B3
3107A:				
Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	Sawmill	flood plain	Yes	2B3
3302A:				
Ambraw sandy loam, 0 to 2 percent slopes, frequently flooded	Ambraw	flood plain	Yes	2B3
8302A:				
Ambraw loam, 0 to 2 percent slopes, occasionally flooded	Ambraw	flood plain	Yes	2B3
8451A:				
Lawson silt loam, 0 to 2 percent slopes, occasionally flooded	Lawson	flood plain	No	---
	Sawmill	flood plain	Yes	2B3

Table 10.--Forestland Harvest Equipment Considerations

(Only the soils that are commonly used as forestland are listed. See text for a description of the considerations listed in this table)

Map symbol and soil name	Forestland harvest equipment considerations
88B:	
Sparta	Poor traction (loose sandy material)
103A:	
Houghton	Wetness Susceptible to rutting and wheel slippage
131B:	
Alvin	Susceptible to rutting and wheel slippage
188A:	
Beardstown	Wetness Susceptible to rutting and wheel slippage
210A:	
Lena	Wetness Susceptible to rutting and wheel slippage
298A:	
Beecher	Wetness Susceptible to rutting and wheel slippage
298B:	
Beecher	Wetness Susceptible to rutting and wheel slippage
311B:	
Ritchey	Susceptible to rutting and wheel slippage
311C:	
Ritchey	Susceptible to rutting and wheel slippage
311D:	
Ritchey	Susceptible to rutting and wheel slippage
315A:	
Channahon	Susceptible to rutting and wheel slippage
315B:	
Channahon	Susceptible to rutting and wheel slippage
315C2:	
Channahon	Susceptible to rutting and wheel slippage
403E:	
Elizabeth	Slope Depth to hard rock Susceptible to rutting and wheel slippage
403F:	
Elizabeth	Slope Depth to hard rock Susceptible to rutting and wheel slippage
501A:	
Morocco	Wetness Poor traction (loose sandy material)
509A:	
Whalan	Susceptible to rutting and wheel slippage

Table 10.--Forestland Harvest Equipment Considerations--Continued

Map symbol and soil name	Forestland harvest equipment considerations
509B:	
Whalan	Susceptible to rutting and wheel slippage
530B:	
Ozaukee	Wetness Susceptible to rutting and wheel slippage
530C2:	
Ozaukee	Wetness Susceptible to rutting and wheel slippage
530C3:	
Ozaukee	Wetness Susceptible to rutting and wheel slippage
530D2:	
Ozaukee	Wetness Susceptible to rutting and wheel slippage
530D3:	
Ozaukee	Wetness Susceptible to rutting and wheel slippage
530E2:	
Ozaukee	Slope Wetness Susceptible to rutting and wheel slippage
530F:	
Ozaukee	Slope Wetness Susceptible to rutting and wheel slippage
531B:	
Markham	Wetness Susceptible to rutting and wheel slippage
531C2:	
Markham	Wetness Susceptible to rutting and wheel slippage
570B:	
Martinsville	Susceptible to rutting and wheel slippage
570C2:	
Martinsville	Susceptible to rutting and wheel slippage
570D2:	
Martinsville	Susceptible to rutting and wheel slippage
570E2:	
Martinsville	Slope Susceptible to rutting and wheel slippage
570F:	
Martinsville	Slope Susceptible to rutting and wheel slippage
688B:	
Braidwood	Susceptible to rutting and wheel slippage

Table 10.--Forestland Harvest Equipment Considerations--Continued

Map symbol and soil name	Forestland harvest equipment considerations
688D:	
Braidwood	Slope Susceptible to rutting and wheel slippage
688G:	
Braidwood	Slope Susceptible to rutting and wheel slippage
741B:	
Oakville	Poor traction (loose sandy material)
741D:	
Oakville	Poor traction (loose sandy material)
741E:	
Oakville	Slope Poor traction (loose sandy material)
741F:	
Oakville	Slope Poor traction (loose sandy material)
777A:	
Adrian	Wetness Susceptible to rutting and wheel slippage
779B:	
Chelsea	Poor traction (loose sandy material)
3082A:	
Millington	Flooding Wetness Susceptible to rutting and wheel slippage
3107A:	
Sawmill	Flooding Wetness Susceptible to rutting and wheel slippage
3302A:	
Ambraw	Flooding Wetness Susceptible to rutting and wheel slippage
8302A:	
Ambraw	Wetness Susceptible to rutting and wheel slippage
8451A:	
Lawson	Wetness Susceptible to rutting and wheel slippage

Table 11.--Forest Haul Road and Log Landing Considerations

(Only the soils that are commonly used as forestland are listed. See text for a description of the considerations listed in this table)

Map symbol and soil name	Haul road considerations	Log landing considerations
88B:		
Sparta	No major considerations	No major considerations
103A:		
Houghton	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
131B:		
Alvin	Low bearing strength	Susceptible to rutting and wheel slippage
188A:		
Beardstown	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
210A:		
Lena	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
298A:		
Beecher	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
298B:		
Beecher	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
311B:		
Ritchey	Depth to hard rock Low bearing strength	Susceptible to rutting and wheel slippage
311C:		
Ritchey	Depth to hard rock Low bearing strength	Susceptible to rutting and wheel slippage
311D:		
Ritchey	Slope Depth to hard rock Low bearing strength	Slope Susceptible to rutting and wheel slippage
315A:		
Channahon	Depth to hard rock Low bearing strength	Susceptible to rutting and wheel slippage
315B:		
Channahon	Depth to hard rock Low bearing strength	Susceptible to rutting and wheel slippage
315C2:		
Channahon	Depth to hard rock Low bearing strength	Susceptible to rutting and wheel slippage
403E:		
Elizabeth	Slope Depth to hard rock Low bearing strength	Slope Susceptible to rutting and wheel slippage
403F:		
Elizabeth	Slope Depth to hard rock Low bearing strength	Slope Susceptible to rutting and wheel slippage

Table 11.--Forest Haul Road and Log Landing Considerations--Continued

Map symbol and soil name	Haul road considerations	Log landing considerations
501A:		
Morocco	Wetness	Wetness
509A:		
Whalan	Low bearing strength	Susceptible to rutting and wheel slippage
509B:		
Whalan	Low bearing strength	Susceptible to rutting and wheel slippage
530B:		
Ozaukee	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
530C2:		
Ozaukee	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
530C3:		
Ozaukee	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
530D2:		
Ozaukee	Slope Wetness Low bearing strength	Slope Wetness Susceptible to rutting and wheel slippage
530D3:		
Ozaukee	Slope Wetness Low bearing strength	Slope Wetness Susceptible to rutting and wheel slippage
530E2:		
Ozaukee	Slope Wetness Low bearing strength	Slope Wetness Susceptible to rutting and wheel slippage
530F:		
Ozaukee	Slope Wetness Low bearing strength	Slope Wetness Susceptible to rutting and wheel slippage
531B:		
Markham	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
531C2:		
Markham	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
570B:		
Martinsville	Low bearing strength	Susceptible to rutting and wheel slippage
570C2:		
Martinsville	Low bearing strength	Susceptible to rutting and wheel slippage
570D2:		
Martinsville	Slope Low bearing strength	Slope Susceptible to rutting and wheel slippage
570E2:		
Martinsville	Slope Low bearing strength	Slope Susceptible to rutting and wheel slippage

Table 11.--Forest Haul Road and Log Landing Considerations--Continued

Map symbol and soil name	Haul road considerations	Log landing considerations
570F:		
Martinsville	Slope Low bearing strength	Slope Susceptible to rutting and wheel slippage
688B:		
Braidwood	Low bearing strength	Susceptible to rutting and wheel slippage
688D:		
Braidwood	Slope Low bearing strength	Slope Susceptible to rutting and wheel slippage
688G:		
Braidwood	Slope Low bearing strength	Slope Susceptible to rutting and wheel slippage
741B:		
Oakville	No major considerations	No major considerations
741D:		
Oakville	Slope	Slope
741E:		
Oakville	Slope	Slope
741F:		
Oakville	Slope	Slope
777A:		
Adrian	Wetness Low bearing strength	Wetness Susceptible to rutting and wheel slippage
779B:		
Chelsea	No major considerations	No major considerations
3082A:		
Millington	Flooding Wetness Low bearing strength	Flooding Wetness Susceptible to rutting and wheel slippage
3107A:		
Sawmill	Flooding Wetness Low bearing strength	Flooding Wetness Susceptible to rutting and wheel slippage
3302A:		
Ambraw	Flooding Wetness Low bearing strength	Flooding Wetness Susceptible to rutting and wheel slippage
8302A:		
Ambraw	Wetness Low bearing strength	Flooding Wetness Susceptible to rutting and wheel slippage
8451A:		
Lawson	Wetness Low bearing strength	Flooding Wetness Susceptible to rutting and wheel slippage

Table 12.--Forestland Site Preparation and Planting Considerations

(Only the soils that are commonly used as forestland are listed. See text for a description of the considerations listed in this table)

Map symbol and soil name	Forestland site preparation and planting considerations
88B:	
Sparta	No major considerations
103A:	
Houghton	Wetness
131B:	
Alvin	No major considerations
188A:	
Beardstown	Wetness Potential poor tilth and compaction
210A:	
Lena	Wetness
298A:	
Beecher	Wetness Potential poor tilth and compaction
298B:	
Beecher	Wetness Potential poor tilth and compaction
311B:	
Ritchey	Depth to hard rock Potential poor tilth and compaction
311C:	
Ritchey	Depth to hard rock Potential poor tilth and compaction
311D:	
Ritchey	Depth to hard rock Water erosion Potential poor tilth and compaction
315A:	
Channahon	Depth to hard rock Potential poor tilth and compaction
315B:	
Channahon	Depth to hard rock
315C2:	
Channahon	Depth to hard rock Potential poor tilth and compaction
403E:	
Elizabeth	Slope Depth to hard rock Water erosion Potential poor tilth and compaction
403F:	
Elizabeth	Slope Depth to hard rock Water erosion Potential poor tilth and compaction

Table 12.--Forestland Site Preparation and Planting Considerations--Continued

Map symbol and soil name	Forestland site preparation and planting considerations
501A:	
Morocco	Wetness
509A:	
Whalan	Potential poor tilth and compaction
509B:	
Whalan	Potential poor tilth and compaction
530B:	
Ozaukee	Wetness Potential poor tilth and compaction
530C2:	
Ozaukee	Wetness Potential poor tilth and compaction
530C3:	
Ozaukee	Wetness Potential poor tilth and compaction
530D2:	
Ozaukee	Wetness Water erosion Potential poor tilth and compaction
530D3:	
Ozaukee	Wetness Water erosion Potential poor tilth and compaction
530E2:	
Ozaukee	Slope Wetness Water erosion Potential poor tilth and compaction
530F:	
Ozaukee	Slope Wetness Water erosion Potential poor tilth and compaction
531B:	
Markham	Wetness Potential poor tilth and compaction
531C2:	
Markham	Wetness Potential poor tilth and compaction
570B:	
Martinsville	No major considerations
570C2:	
Martinsville	No major considerations
570D2:	
Martinsville	Water erosion
570E2:	
Martinsville	Slope Water erosion

Table 12.--Forestland Site Preparation and Planting Considerations--Continued

Map symbol and soil name	Forestland site preparation and planting considerations
570F:	
Martinsville	Slope Water erosion
688B:	
Braidwood	Potential poor tilth and compaction
688D:	
Braidwood	Slope Water erosion Potential poor tilth and compaction
688G:	
Braidwood	Slope Water erosion Potential poor tilth and compaction
741B:	
Oakville	No major considerations
741D:	
Oakville	Water erosion
741E:	
Oakville	Slope Water erosion
741F:	
Oakville	Slope Water erosion
777A:	
Adrian	Wetness
779B:	
Chelsea	No major considerations
3082A:	
Millington	Flooding Wetness
3107A:	
Sawmill	Flooding Wetness
3302A:	
Ambraw	Flooding Wetness
8302A:	
Ambraw	Wetness
8451A:	
Lawson	Wetness

Table 13.--Forestland Productivity

(Only the soils commonly used as forestland are listed. See text for definitions of terms used in this table)

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
88B:				
Sparta	Northern red oak	70	57	Common hackberry, eastern redcedar, eastern white pine, green ash, red maple.
	Jack pine	---	---	
	Eastern white pine	---	---	
	White oak	---	---	
103A:				
Houghton	Red maple	51	29	Eastern cottonwood, green ash, pin oak, swamp white oak.
	Silver maple	76	29	
	White ash	51	29	
	Black willow	---	---	
131B:				
Alvin	Northern red oak	80	57	Black walnut, bur oak, eastern white pine, pin oak.
	White oak	80	57	
	Black walnut	---	---	
188A:				
Beardstown	Northern red oak	80	57	Common hackberry, eastern cottonwood, green ash, pin oak, swamp white oak.
	White oak	80	57	
	Black walnut	---	---	
	Eastern cottonwood	---	---	
210A:				
Lena	Black willow	---	---	Eastern cottonwood, green ash, pin oak, swamp white oak.
	Red maple	---	---	
	Silver maple	---	---	
	White ash	---	---	
298A, 298B:				
Beecher	Northern red oak	65	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash.
	Black cherry	---	---	
	Bur oak	---	---	
	Northern pin oak	---	---	
	Shagbark hickory	---	---	
	White oak	---	---	
311B, 311C, 311D:				
Ritchey	Northern red oak	50	29	Bur oak, chinkapin oak, eastern redcedar, green ash, thornless honeylocust.
	White oak	50	29	
	Bur oak	---	---	
	Eastern redcedar	---	---	
315A, 315B, 315C2:				
Channahon	Northern red oak	55	43	Bur oak, chinkapin oak, eastern redcedar, green ash, thornless honeylocust.
	Sugar maple	---	---	
	White oak	---	---	
	American basswood	---	---	
403E, 403F:				
Elizabeth	Black oak	60	43	Bur oak, chinkapin oak, eastern redcedar, green ash, thornless honeylocust.
	Bur oak	60	43	
	Eastern redcedar	---	---	
	Northern red oak	---	---	
	Shagbark hickory	---	---	

Table 13.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
501A:				
Morocco	Eastern white pine	65	143	Common hackberry, eastern cottonwood, green ash, pin oak, swamp white oak.
	Northern red oak	70	57	
	Pin oak	85	72	
509A, 509B:				
Whalan	American basswood	65	57	Black oak, common hackberry, eastern white pine, green ash.
	Bitternut hickory	69	---	
	Black cherry	57	29	
	Black walnut	55	---	
	Northern red oak	79	86	
	White oak	78	72	
530B, 530C2, 530C3, 530D2, 530D3, 530E2, 530F:				
Ozaukee	Northern red oak	66	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash.
	American basswood	---	---	
	Shagbark hickory	---	---	
	Sugar maple	---	---	
	White ash	---	---	
531B, 531C2:				
Markham	Northern red oak	65	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash.
	Black cherry	---	---	
	Shagbark hickory	---	---	
	White oak	---	---	
570B, 570C2, 570D2, 570E2, 570F:				
Martinsville	White oak	80	57	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pin oak, white oak.
	Northern red oak	80	57	
	Sugar maple	---	---	
	Shagbark hickory	---	---	
688B, 688D, 688G:				
Braidwood	Black walnut	73	---	Common hackberry, eastern redcedar, eastern white pine, green ash, red maple.
	Eastern cottonwood	---	---	
741B, 741D, 741E, 741F:				
Oakville	Eastern white pine	85	200	Common hackberry, eastern redcedar, eastern white pine, green ash, red maple.
	Jack pine	68	100	
	Red pine	78	143	
	White oak	70	57	
777A:				
Adrian	Red maple	51	29	Eastern cottonwood, green ash, pin oak, swamp white oak.
	Silver maple	76	29	
	White ash	51	29	
	Black willow	---	---	
779B:				
Chelsea	White oak	55	43	Common hackberry, eastern redcedar, eastern white pine, green ash, red maple.
	Northern red oak	---	---	

Table 13.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Suggested trees to plant
			cu ft/ac	
3082A:				
Millington	American beech	---	---	Bur oak, common hackberry, eastern cottonwood, eastern redcedar, green ash.
	American sycamore	---	---	
	Blackgum	---	---	
	Northern red oak	---	---	
	Pin oak	---	---	
	Red maple	---	---	
	Shagbark hickory	---	---	
	Swamp white oak	---	---	
	White ash	---	---	
3107A:				
Sawmill	Pin oak	90	72	Common hackberry, eastern cottonwood, green ash, pin oak, river birch, swamp white oak.
	American sycamore	---	---	
	Eastern cottonwood	---	---	
3302A:				
Ambraw	American sycamore	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, swamp white oak.
	Eastern cottonwood	---	---	
	Silver maple	---	---	
8302A:				
Ambraw	American sycamore	---	---	Common hackberry, eastern cottonwood, green ash, pin oak, swamp white oak.
	Eastern cottonwood	---	---	
	Silver maple	---	---	
8451A:				
Lawson	Silver maple	70	29	Common hackberry, eastern cottonwood, green ash, pin oak, swamp white oak.
	White ash	---	---	
	Red maple	---	---	

Table 14.--Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
49A:					
Watseka	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
69A:					
Milford	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, shingle oak	Green ash, red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
88B:					
Sparta	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar	Eastern white pine

Table 14.--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
91A, 91B2:					
Swygert	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash	Norway spruce	Carolina poplar
98B:					
Ade	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar	Eastern white pine
102A:					
La Hogue	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 14.--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
103A:					
Houghton	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Common serviceberry, hazel alder, nannyberry, roughleaf dogwood	Arborvitae	Green ash, pin oak, river birch, swamp white oak	Carolina poplar, eastern cottonwood
125A:					
Selma	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, shingle oak	Green ash, red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
131B:					
Alvin	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, green ash, pecan	Norway spruce, common hackberry, pin oak	Carolina poplar, eastern white pine

Table 14.--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
146A, 146B, 146B2: Elliott	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash	Norway spruce	Carolina poplar
149A: Brenton	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
150A, 150B: Onarga	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, green ash, pecan	Norway spruce, common hackberry, pin oak	Carolina poplar, eastern white pine

Table 14.--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
151A: Ridgeville	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
153A: Pella	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood, green ash	---
188A: Beardstown	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
189A: Martinton	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 14.--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
201A:					
Gilford	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, shingle oak	Green ash, red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
210A:					
Lena	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Common serviceberry, hazel alder, nannyberry, roughleaf dogwood	Arborvitae	Green ash, pin oak, river birch, swamp white oak	Carolina poplar, eastern cottonwood
223B, 223B2, 223C2, 223C3:					
Varna	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash	Norway spruce	Carolina poplar

Table 14.--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
232A:					
Ashkum	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, shingle oak	Green ash, red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
235A:					
Bryce	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, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
240A:					
Plattville	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine

Table 14.--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
241C3:					
Chatsworth	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash	Norway spruce	Carolina poplar
293A, 293B:					
Andres	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
294A, 294B:					
Symerton	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine

Table 14.--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
295A:					
Mokena	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
298A, 298B:					
Beecher	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash	Norway spruce	Carolina poplar
311B, 311C, 311D:					
Ritchey	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, green ash, thornless honeylocust	---	---
315A, 315B, 315C2:					
Channahon	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, green ash, thornless honeylocust	---	---

Table 14.--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
330A:					
Peotone	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, shingle oak	Green ash, red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
369A, 369B:					
Waupecan	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
380A:					
Fieldon	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood, green ash	---
403E, 403F:					
Elizabeth	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, green ash, thornless honeylocust	---	---

Table 14.--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
440A, 440B, 440C2:					
Jasper	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
493A:					
Bonfield	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
494A, 494B:					
Kankakee	American cranberrybush, American hazelnut, black chokeberry, common chokecherry, common elderberry, common juniper, coralberry, mapleleaf viburnum, silky dogwood	American plum, bur oak, chinkapin oak, common serviceberry, eastern redcedar, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac	Black oak, common hackberry, eastern white pine, green ash	Carolina poplar	---

Table 14.--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
501A:					
Morocco	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
503A, 503B:					
Rockton	American cranberrybush, American hazelnut, black chokeberry, common chokecherry, common elderberry, common juniper, coralberry, mapleleaf viburnum, silky dogwood	American plum, bur oak, chinkapin oak, common serviceberry, eastern redcedar, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac	Black oak, common hackberry, eastern white pine, green ash	Carolina poplar	---
509A, 509B:					
Whalan	American cranberrybush, American hazelnut, black chokeberry, common chokecherry, common elderberry, common juniper, coralberry, mapleleaf viburnum, silky dogwood	American plum, bur oak, chinkapin oak, common serviceberry, eastern redcedar, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac	Black oak, common hackberry, eastern white pine, green ash	Carolina poplar	---

Table 14.--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
513A:					
Granby	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, shingle oak	Green ash, red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
516A:					
Faxon	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, shingle oak	Green ash, red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
523A:					
Dunham	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, shingle oak	Green ash, red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 14.--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
526A:					
Grundelein	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
530B, 530C2, 530C3, 530D2, 530D3, 530E2, 530F:					
Ozaukee	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash	Norway spruce	Carolina poplar
531B, 531C2:					
Markham	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash	Norway spruce	Carolina poplar

Table 14.--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
570B, 570C2, 570D2, 570E2, 570F:					
Martinsville	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
594A:					
Reddick	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, shingle oak	Green ash, red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
610A:					
Tallmadge	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, shingle oak	Green ash, red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 14.--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
664A:					
Rensselaer	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, shingle oak	Green ash, red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
688B, 688D, 688G:					
Braidwood	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar	Eastern white pine
719A, 719B, 719C2:					
Symerton	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine

Table 14.--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
740A:					
Darroch	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
741B, 741D, 741E, 741F:					
Oakville	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar	Eastern white pine
777A:					
Adrian	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Common serviceberry, hazel alder, nannyberry, roughleaf dogwood	Arborvitae	Green ash, pin oak, river birch, swamp white oak	Carolina poplar, eastern cottonwood

Table 14.--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
779B:					
Chelsea	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar	Eastern white pine
802B, 802F:					
Orthents, loamy	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
805B:					
Orthents, clayey	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash	Norway spruce	Carolina poplar
830.					
Landfills					
864, 865.					
Pits					

Table 14.--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
3082A:					
Millington	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood, green ash	---
3107A:					
Sawmill	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, shingle oak	Green ash, red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
3302A:					
Ambraw	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, shingle oak	Green ash, red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
8302A:					
Ambraw	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, shingle oak	Green ash, red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 14.--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
8451A:					
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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 15a.--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
49A:						
Watseka	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Too sandy	0.59	Too sandy	0.59	Too sandy	0.59
69A:						
Milford	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
88B:						
Sparta	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.95	Too sandy	0.95	Too sandy	0.95
					Slope	0.28
91A:						
Swygert	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Restricted permeability	0.96	Depth to saturated zone	0.98
	Restricted permeability	0.96	Depth to saturated zone	0.75	Restricted permeability	0.96
91B2:						
Swygert	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Restricted permeability	0.96	Depth to saturated zone	0.98
	Restricted permeability	0.96	Depth to saturated zone	0.75	Restricted permeability	0.96
					Slope	0.12
98B:						
Ade	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.68	Too sandy	0.68	Too sandy	0.68
					Slope	0.28
102A:						
La Hogue	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
103A:						
Houghton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
125A:						
Selma	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
131B:						
Alvin	Not limited		Not limited		Somewhat limited	
					Slope	0.28
146A:						
Elliott	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Restricted permeability	0.96	Depth to saturated zone	1.00
	Restricted permeability	0.96	Depth to saturated zone	0.88	Restricted permeability	0.96
146B:						
Elliott	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Restricted permeability	0.96	Depth to saturated zone	1.00
	Restricted permeability	0.96	Depth to saturated zone	0.88	Restricted permeability	0.96
					Slope	0.12
146B2:						
Elliott	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Restricted permeability	0.96	Depth to saturated zone	1.00
	Restricted permeability	0.96	Depth to saturated zone	0.88	Restricted permeability	0.96
					Slope	0.12
149A:						
Brenton	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
150A:						
Onarga	Not limited		Not limited		Not limited	
150B:						
Onarga	Not limited		Not limited		Somewhat limited	
					Slope	0.28
151A:						
Ridgeville	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
153A:						
Pella	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
188A:						
Beardstown	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
189A:						
Martinton	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
201A:						
Gilford	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
210A:						
Lena	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
223B:						
Varna	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.12
223B2:						
Varna	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.12
223C2:						
Varna	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.88
223C3:						
Varna	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.88
232A:						
Ashkum	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
235A:						
Bryce	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
240A:						
Plattville	Not limited		Not limited		Not limited	
241C3:						
Chatsworth	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
	Depth to saturated zone	0.16	Depth to saturated zone	0.08	Slope	0.88
					Depth to saturated zone	0.16
293A:						
Andres	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
293B:						
Andres	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	0.28
					Restricted permeability	0.21
294A:						
Symerton	Not limited		Not limited		Not limited	
294B:						
Symerton	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.28
295A:						
Mokena	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Restricted permeability	0.96	Depth to saturated zone	0.98
	Restricted permeability	0.96	Depth to saturated zone	0.75	Restricted permeability	0.96
298A:						
Beecher	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
298B:						
Beecher	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.12

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
311B:						
Ritchey-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
					Slope	0.12
311C:						
Ritchey-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
					Slope	0.88
311D:						
Ritchey-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Depth to bedrock	1.00
315A:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
315B:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
					Slope	0.12
315C2:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Restricted permeability	0.43	Restricted permeability	0.43	Slope	0.88
					Restricted permeability	0.43
330A:						
Peotone-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
369A:						
Waupecan------------	Not limited		Not limited		Not limited	
369B:						
Waupecan------------	Not limited		Not limited		Somewhat limited	
					Slope	0.12
380A:						
Fieldon-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
403E:						
Elizabeth-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
403F:						
Elizabeth-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
440A:						
Jasper	Not limited		Not limited		Not limited	
440B:						
Jasper	Not limited		Not limited		Somewhat limited	
					Slope	0.28
440C2:						
Jasper	Not limited		Not limited		Very limited	
					Slope	1.00
493A:						
Bonfield	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
					Content of large stones	0.01
494A:						
Kankakee	Not limited		Not limited		Somewhat limited	
					Content of large stones	0.01
494B:						
Kankakee	Not limited		Not limited		Somewhat limited	
					Slope	0.12
					Content of large stones	0.01
501A:						
Morocco	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Too sandy	0.59	Too sandy	0.59	Too sandy	0.59
503A:						
Rockton	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.43	Restricted permeability	0.43	Restricted permeability	0.43
503B:						
Rockton	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.43	Restricted permeability	0.43	Restricted permeability	0.43
					Depth to bedrock	0.42
					Slope	0.12
509A:						
Whalan	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.43	Restricted permeability	0.43	Restricted permeability	0.43
509B:						
Whalan	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.43	Restricted permeability	0.43	Restricted permeability	0.43
					Depth to bedrock	0.42
					Slope	0.12

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
513A:						
Granby	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
516A:						
Faxon	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
523A:						
Dunham	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
526A:						
Grundelein	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
530B:						
Ozaukee	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.12
530C2:						
Ozaukee	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
	Depth to saturated zone	0.16	Depth to saturated zone	0.08	Slope	0.88
					Depth to saturated zone	0.16
530C3:						
Ozaukee	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.88
530D2:						
Ozaukee	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
	Depth to saturated zone	0.16	Depth to saturated zone	0.08	Restricted permeability	0.96
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.16
530D3:						
Ozaukee	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Restricted permeability	0.96
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.39

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
530E2:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
	Depth to saturated zone	0.16	Depth to saturated zone	0.08	Depth to saturated zone	0.16
530F:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
531B:						
Markham	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.12
531C2:						
Markham	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
	Depth to saturated zone	0.07	Depth to saturated zone	0.03	Slope	0.88
					Depth to saturated zone	0.07
570B:						
Martinsville	Not limited		Not limited		Somewhat limited	
					Slope	0.12
570C2:						
Martinsville	Not limited		Not limited		Somewhat limited	
					Slope	0.88
570D2:						
Martinsville	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
570E2:						
Martinsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
570F:						
Martinsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
594A:						
Reddick	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
610A:						
Tallmadge	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 15a.--Recreational Development--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
664A:						
Rensselaer----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
688B:						
Braidwood-----------	Not limited		Not limited		Somewhat limited	
					Slope	0.50
688D:						
Braidwood-----------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.91	Slope	0.91	Slope	1.00
688G:						
Braidwood-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
719A:						
Symerton------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
719B:						
Symerton------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.28
719C2:						
Symerton------------	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Restricted permeability	0.96
					Depth to saturated zone	0.39
740A:						
Darroch-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
741B:						
Oakville------------	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
					Slope	0.28
741D:						
Oakville------------	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Too sandy	1.00
741E:						
Oakville------------	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Too sandy	1.00

Table 15a.--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
741F:						
Oakville	Very limited		Very limited		Very limited	
	Slope	1.00	Too sandy	1.00	Slope	1.00
	Too sandy	1.00	Slope	1.00	Too sandy	1.00
777A:						
Adrian	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
779B:						
Chelsea	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.59	Too sandy	0.59	Too sandy	0.59
					Slope	0.28
802B:						
Orthents, loamy	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	0.28
					Restricted permeability	0.21
802F:						
Orthents, loamy	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
805B:						
Orthents, clayey	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
					Slope	0.12
830:						
Landfills	Not rated		Not rated		Not rated	
864, 865:						
Pits	Not rated		Not rated		Not rated	
3082A:						
Millington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
3107A:						
Sawmill	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00

Table 15a.--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
3302A:						
Ambraw	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
8302A:						
Ambraw	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00			Flooding	0.60
8451A:						
Lawson	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Depth to saturated zone	0.98			Flooding	0.60

Table 15b.--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: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
49A:						
Watseka	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.59	Too sandy	0.59	Depth to saturated zone	0.75
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Droughty	0.05
69A:						
Milford	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
88B:						
Sparta	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.95	Too sandy	0.95	Droughty	0.09
91A:						
Swygert	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
91B2:						
Swygert	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
98B:						
Ade	Somewhat limited		Somewhat limited		Not limited	
	Too sandy	0.68	Too sandy	0.68		
102A:						
La Hogue	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
103A:						
Houghton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
125A:						
Selma	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
131B:						
Alvin	Not limited		Not limited		Not limited	

Table 15b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
146A:						
Elliott	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.73	Depth to saturated zone	0.73	Depth to saturated zone	0.88
146B:						
Elliott	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.73	Depth to saturated zone	0.73	Depth to saturated zone	0.88
146B2:						
Elliott	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.73	Depth to saturated zone	0.73	Depth to saturated zone	0.88
149A:						
Brenton	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
150A:						
Onarga	Not limited		Not limited		Not limited	
150B:						
Onarga	Not limited		Not limited		Not limited	
151A:						
Ridgeville	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
153A:						
Pella	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
188A:						
Beardstown	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
189A:						
Martinton	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
201A:						
Gilford	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
210A:						
Lena	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00

Table 15b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
223B:						
Varna	Not limited		Not limited		Not limited	
223B2:						
Varna	Not limited		Not limited		Not limited	
223C2:						
Varna	Not limited		Not limited		Not limited	
223C3:						
Varna	Not limited		Not limited		Not limited	
232A:						
Ashkum	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
235A:						
Bryce	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
240A:						
Plattville	Not limited		Not limited		Not limited	
241C3:						
Chatsworth	Very limited		Very limited		Very limited	
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
					Droughty	0.97
					Depth to saturated zone	0.08
293A:						
Andres	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
293B:						
Andres	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
294A:						
Symerton	Not limited		Not limited		Not limited	
294B:						
Symerton	Not limited		Not limited		Not limited	
295A:						
Mokena	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
298A:						
Beecher	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.98	Depth to saturated zone	0.99

Table 15b.--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
298B:						
Beecher	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
311B:						
Ritchey	Not limited		Not limited		Very limited	
					Depth to bedrock	1.00
					Droughty	0.51
311C:						
Ritchey	Not limited		Not limited		Very limited	
					Depth to bedrock	1.00
					Droughty	0.47
311D:						
Ritchey	Not limited		Not limited		Very limited	
					Depth to bedrock	1.00
					Droughty	0.57
					Slope	0.04
315A:						
Channahon	Not limited		Not limited		Very limited	
					Depth to bedrock	1.00
					Droughty	0.61
315B:						
Channahon	Not limited		Not limited		Very limited	
					Depth to bedrock	1.00
					Droughty	0.56
315C2:						
Channahon	Not limited		Not limited		Very limited	
					Depth to bedrock	1.00
					Droughty	0.88
330A:						
Peotone	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
369A:						
Waupecan	Not limited		Not limited		Not limited	
369B:						
Waupecan	Not limited		Not limited		Not limited	
380A:						
Fieldon	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
403E:						
Elizabeth	Somewhat limited		Not limited		Very limited	
	Slope	0.02			Depth to bedrock	1.00
					Slope	1.00
					Droughty	0.75

Table 15b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
403F:						
Elizabeth	Very limited		Not limited		Very limited	
	Slope	1.00			Depth to bedrock	1.00
					Slope	1.00
					Droughty	0.99
440A:						
Jasper	Not limited		Not limited		Not limited	
440B:						
Jasper	Not limited		Not limited		Not limited	
440C2:						
Jasper	Not limited		Not limited		Not limited	
493A:						
Bonfield	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
					Content of large stones	0.01
494A:						
Kankakee	Not limited		Not limited		Somewhat limited	
					Content of large stones	0.01
494B:						
Kankakee	Not limited		Not limited		Somewhat limited	
					Content of large stones	0.01
501A:						
Morocco	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.59	Too sandy	0.59	Depth to saturated zone	0.75
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Droughty	0.02
503A:						
Rockton	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.42
503B:						
Rockton	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.42
509A:						
Whalan	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.42
509B:						
Whalan	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.42
513A:						
Granby	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
					Droughty	0.01

Table 15b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
516A:						
Faxon	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
					Depth to bedrock	0.42
523A:						
Dunham	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
526A:						
Grundelein	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
530B:						
Ozaukee	Not limited		Not limited		Not limited	
530C2:						
Ozaukee	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.08
530C3:						
Ozaukee	Not limited		Not limited		Not limited	
530D2:						
Ozaukee	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.08
					Slope	0.04
530D3:						
Ozaukee	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.19
					Slope	0.04
530E2:						
Ozaukee	Somewhat limited		Not limited		Very limited	
	Slope	0.02			Slope	1.00
					Depth to saturated zone	0.08
530F:						
Ozaukee	Very limited		Not limited		Very limited	
	Slope	1.00			Slope	1.00
531B:						
Markham	Not limited		Not limited		Not limited	
531C2:						
Markham	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.03

Table 15b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
570B:						
Martinsville--------	Not limited		Not limited		Not limited	
570C2:						
Martinsville--------	Not limited		Not limited		Not limited	
570D2:						
Martinsville--------	Not limited		Not limited		Somewhat limited	
					Slope	0.04
570E2:						
Martinsville--------	Somewhat limited		Not limited		Very limited	
	Slope	0.02			Slope	1.00
570F:						
Martinsville--------	Very limited		Not limited		Very limited	
	Slope	1.00			Slope	1.00
594A:						
Reddick-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
610A:						
Tallmadge-----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
664A:						
Rensselaer----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
688B:						
Braidwood-----------	Not limited		Not limited		Not limited	
688D:						
Braidwood-----------	Not limited		Not limited		Somewhat limited	
					Slope	0.91
688G:						
Braidwood-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
719A:						
Symerton------------	Not limited		Not limited		Not limited	
719B:						
Symerton------------	Not limited		Not limited		Not limited	
719C2:						
Symerton------------	Not limited		Not limited		Somewhat limited	
					Depth to saturated zone	0.19

Table 15b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
740A:						
Darroch-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
741B:						
Oakville------------	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Droughty	0.34
741D:						
Oakville------------	Very limited		Very limited		Somewhat limited	
	Too sandy	1.00	Too sandy	1.00	Droughty	0.42
					Slope	0.04
741E:						
Oakville------------	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Slope	1.00
	Slope	0.02			Droughty	0.43
741F:						
Oakville------------	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Slope	1.00
	Slope	1.00			Droughty	0.40
777A:						
Adrian--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
779B:						
Chelsea-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Too sandy	0.59	Too sandy	0.59	Droughty	0.01
802B:						
Orthents, loamy-----	Not limited		Not limited		Not limited	
802F:						
Orthents, loamy-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.68				
805B:						
Orthents, clayey----	Very limited		Very limited		Very limited	
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
					Droughty	0.48
830:						
Landfills-----------	Not rated		Not rated		Not rated	
864, 865:						
Pits----------------	Not rated		Not rated		Not rated	
3082A:						
Millington----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	0.40	Flooding	0.40	Ponding	1.00

Table 15b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
3107A:						
Sawmill	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	0.40	Flooding	0.40	Ponding	1.00
3302A:						
Ambraw	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	0.40	Flooding	0.40	Ponding	1.00
8302A:						
Ambraw	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
					Flooding	0.60
8451A:						
Lawson	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
					Flooding	0.60

Table 16.--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
49A:										
Watseka	Fair	Fair	Good	Good	Good	Fair	Poor	Fair	Good	Poor.
69A:										
Milford	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
88B:										
Sparta	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
91A:										
Swygert	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
91B2:										
Swygert	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
98B:										
Ade	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
102A:										
La Hogue	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
103A:										
Houghton	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
125A:										
Selma	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
131B:										
Alvin	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
146A:										
Elliott	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
146B, 146B2:										
Elliott	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
149A:										
Brenton	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
150A:										
Onarga	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
150B:										
Onarga	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
151A:										
Ridgeville	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
153A:										
Pella	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.

Table 16.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
188A: Beardstown	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
189A: Martinton	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
201A: Gilford	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
210A: Lena	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
223B: Varna	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
223B2: Varna	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
223C2, 223C3: Varna	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
232A: Ashkum	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
235A: Bryce	Fair	Fair	Poor	Fair	Fair	Good	Good	Fair	Fair	Good.
240A: Plattville	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
241C3: Chatsworth	Poor	Poor	Fair	Poor	Poor	Poor	Very poor.	Poor	Poor	Very poor.
293A: Andres	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
293B: Andres	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
294A: Symerton	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
294B: Symerton	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
295A: Mokena	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
298A: Beecher	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
298B: Beecher	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
311B: Ritchey	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.

Table 16.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
311C:										
Ritchey	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
311D:										
Ritchey	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
315A:										
Channahon	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
315B:										
Channahon	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
315C2:										
Channahon	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
330A:										
Peotone	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
369A:										
Waupecan	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
369B:										
Waupecan	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
380A:										
Fieldon	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
403E:										
Elizabeth	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.
403F:										
Elizabeth	Very poor.	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.
440A:										
Jasper	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
440B:										
Jasper	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
440C2:										
Jasper	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
493A:										
Bonfield	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
494A:										
Kankakee	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 16.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
494B: Kankakee	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
501A: Morocco	Fair	Fair	Good	Fair	Fair	Fair	Poor	Fair	Fair	Poor.
503A: Rockton	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
503B: Rockton	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
509A: Whalan	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
509B: Whalan	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
513A: Granby	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
516A: Faxon	Fair	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
523A: Dunham	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
526A: Grundelein	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
530B: Ozaukee	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
530C2: Ozaukee	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
530C3: Ozaukee	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
530D2: Ozaukee	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
530D3: Ozaukee	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
530E2: Ozaukee	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
530F: Ozaukee	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 16.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
531B: Markham	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
531C2: Markham	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
570B: Martinsville	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
570C2: Martinsville	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
570D2: Martinsville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
570E2: Martinsville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
570F: Martinsville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
594A: Reddick	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
610A: Tallmadge	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
664A: Rensselaer	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
688B: Braidwood	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
688D: Braidwood	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
688G: Braidwood	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
719A: Symerton	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
719B: Symerton	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
719C2: Symerton	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
740A: Darroch	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

Table 16.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
741B:										
Oakville----------	Poor	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
741D:										
Oakville----------	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
741E:										
Oakville----------	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
741F:										
Oakville----------	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
777A:										
Adrian------------	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
779B:										
Chelsea-----------	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
802B:										
Orthents, loamy---	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
802F:										
Orthents, loamy---	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
805B:										
Orthents, clayey--	Fair	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
830.										
Landfills										
864, 865.										
Pits										
3082A:										
Millington--------	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
3107A:										
Sawmill-----------	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
3302A:										
Ambraw------------	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
8302A:										
Ambraw------------	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
8451A:										
Lawson------------	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

Table 17a.--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
49A:						
Watseka	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
69A:						
Milford	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
88B:						
Sparta	Not limited		Not limited		Not limited	
91A:						
Swygert	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.99	Shrink-swell	1.00	Depth to saturated zone	0.99
91B2:						
Swygert	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.99	Shrink-swell	1.00	Depth to saturated zone	0.99
98B:						
Ade	Not limited		Not limited		Not limited	
102A:						
La Hogue	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Shrink-swell	0.50			Shrink-swell	0.50
103A:						
Houghton	Very limited		Very limited		Very limited	
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
125A:						
Selma	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
131B:						
Alvin	Not limited		Not limited		Not limited	

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
146A:						
Elliott	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
146B:						
Elliott	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
146B2:						
Elliott	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
149A:						
Brenton	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
150A:						
Onarga	Not limited		Not limited		Not limited	
150B:						
Onarga	Not limited		Not limited		Not limited	
151A:						
Ridgeville	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
153A:						
Pella	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
188A:						
Beardstown	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
189A:						
Martinton	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
201A:						
Gilford	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
210A:						
Lena----------------	Very limited		Very limited		Very limited	
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
223B:						
Varna---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
			Shrink-swell	0.50		
223B2:						
Varna---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
223C2:						
Varna---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Slope	0.68
			Shrink-swell	0.50	Shrink-swell	0.50
223C3:						
Varna---------------	Not limited		Somewhat limited		Somewhat limited	
			Depth to saturated zone	0.99	Slope	0.68
232A:						
Ashkum--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Ponding	1.00	Shrink-swell	1.00
	Ponding	1.00	Shrink-swell	0.50	Ponding	1.00
235A:						
Bryce---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
240A:						
Plattville----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to bedrock	0.42		
241C3:						
Chatsworth----------	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	0.68
	Depth to saturated zone	0.20	Shrink-swell	0.50	Shrink-swell	0.50
					Depth to saturated zone	0.20

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
293A:						
Andres	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
293B:						
Andres	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
294A:						
Symerton	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.85	Shrink-swell	0.50
			Shrink-swell	0.50		
294B:						
Symerton	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.97	Shrink-swell	0.50
295A:						
Mokena	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Shrink-swell	0.50	Shrink-swell	0.22	Shrink-swell	0.50
298A:						
Beecher	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
298B:						
Beecher	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
311B:						
Ritchey	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
311C:						
Ritchey	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.68
					Shrink-swell	0.50
311D:						
Ritchey	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.04	Slope	0.04	Shrink-swell	0.50

Table 17a.--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
315A:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
315B:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
315C2:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.68
					Shrink-swell	0.50
330A:						
Peotone------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
369A:						
Waupecan-----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
369B:						
Waupecan-----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
380A:						
Fieldon------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
403E:						
Elizabeth----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
403F:						
Elizabeth----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
440A:						
Jasper-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
440B:						
Jasper-------------	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Shrink-swell	0.50
440C2:						
Jasper-------------	Not limited		Not limited		Somewhat limited	
					Slope	0.94

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
493A:						
Bonfield------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Content of large stones	0.01	Content of large stones	0.01	Content of large stones	0.01
494A:						
Kankakee------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Content of large stones	0.01	Content of large stones	0.01	Content of large stones	0.01
494B:						
Kankakee------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Content of large stones	0.28	Content of large stones	0.28	Content of large stones	0.28
501A:						
Morocco-------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
503A:						
Rockton-------------	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to bedrock	1.00	Shrink-swell	0.50
	Depth to bedrock	0.42	Shrink-swell	0.50	Depth to bedrock	0.42
503B:						
Rockton-------------	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to bedrock	1.00	Shrink-swell	0.50
	Depth to bedrock	0.42	Shrink-swell	0.50	Depth to bedrock	0.42
509A:						
Whalan--------------	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to bedrock	1.00	Shrink-swell	0.50
	Depth to bedrock	0.42	Shrink-swell	0.50	Depth to bedrock	0.42
509B:						
Whalan--------------	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to bedrock	1.00	Shrink-swell	0.50
	Depth to bedrock	0.42	Shrink-swell	0.50	Depth to bedrock	0.42
513A:						
Granby--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
516A:						
Faxon---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to bedrock	1.00	Ponding	1.00
	Shrink-swell	0.50	Ponding	1.00	Shrink-swell	0.50
	Depth to bedrock	0.42	Shrink-swell	0.50	Depth to bedrock	0.42

Table 17a.--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
523A:						
Dunham	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
526A:						
Grundelein	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Shrink-swell	0.50			Shrink-swell	0.50
530B:						
Ozaukee	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
530C2:						
Ozaukee	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.20	Depth to saturated zone	1.00	Slope	0.68
					Depth to saturated zone	0.20
530C3:						
Ozaukee	Not limited		Somewhat limited		Somewhat limited	
			Depth to saturated zone	0.99	Slope	0.68
530D2:						
Ozaukee	Somewhat limited		Very limited		Very limited	
	Depth to saturated zone	0.20	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.20
530D3:						
Ozaukee	Somewhat limited		Very limited		Very limited	
	Depth to saturated zone	0.44	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.44
530E2:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50	Slope	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.20			Depth to saturated zone	0.20
530F:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
531B:						
Markham	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
531C2:						
Markham------------	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	0.68
	Depth to saturated zone	0.10			Shrink-swell	0.50
					Depth to saturated zone	0.10
570B:						
Martinsville--------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
570C2:						
Martinsville--------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.68
					Shrink-swell	0.50
570D2:						
Martinsville--------	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.04	Slope	0.04	Shrink-swell	0.50
570E2:						
Martinsville--------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
570F:						
Martinsville--------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
594A:						
Reddick------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
610A:						
Tallmadge-----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to bedrock	0.42		
664A:						
Rensselaer----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
688B:						
Braidwood----------	Not limited		Not limited		Somewhat limited	
					Slope	0.10
688D:						
Braidwood----------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.91	Slope	0.91	Slope	1.00

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
688G:						
Braidwood-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
719A:						
Symerton------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
			Shrink-swell	0.50		
719B:						
Symerton------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
719C2:						
Symerton------------	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	0.94
	Depth to saturated zone	0.44			Shrink-swell	0.50
					Depth to saturated zone	0.44
740A:						
Darroch-------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
741B:						
Oakville------------	Not limited		Not limited		Not limited	
741D:						
Oakville------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
741E:						
Oakville------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
741F:						
Oakville------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
777A:						
Adrian--------------	Very limited		Very limited		Very limited	
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Content of organic matter	1.00	Ponding	1.00	Content of organic matter	1.00
	Ponding	1.00			Ponding	1.00
779B:						
Chelsea-------------	Not limited		Not limited		Not limited	
802B:						
Orthents, loamy-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.47		

Table 17a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
802F:						
Orthents, loamy-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.47		
805B:						
Orthents, clayey----	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
			Depth to saturated zone	0.99		
830:						
Landfills-----------	Not rated		Not rated		Not rated	
864, 865.						
Pits----------------	Not rated		Not rated		Not rated	
3082A:						
Millington----------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
			Shrink-swell	0.50		
3107A:						
Sawmill-------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
3302A:						
Ambraw--------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8302A:						
Ambraw--------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8451A:						
Lawson--------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
			Shrink-swell	0.50		

Table 17b.--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
49A:						
Watseka-------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.75	Cutbanks cave	1.00	Depth to saturated zone	0.75
			Depth to saturated zone	1.00	Droughty	0.06
69A:						
Milford-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Ponding	1.00	Ponding	1.00
	Frost action	1.00				
	Ponding	1.00				
	Shrink-swell	0.50				
88B:						
Sparta--------------	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.11
91A:						
Swygert-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Shrink-swell	1.00	Too clayey	0.50		
	Depth to saturated zone	0.75				
	Frost action	0.50				
91B2:						
Swygert-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Shrink-swell	1.00	Too clayey	0.50		
	Depth to saturated zone	0.75				
	Frost action	0.50				
98B:						
Ade-----------------	Not limited		Very limited		Not limited	
			Cutbanks cave	1.00		
102A:						
La Hogue------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.75	Cutbanks cave	1.00	Depth to saturated zone	0.75
	Shrink-swell	0.50	Depth to saturated zone	1.00		
	Frost action	0.50				
	Low strength	0.28				
103A:						
Houghton------------	Very limited		Very limited		Not rated	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
	Subsidence	1.00	Content of organic matter	1.00		
	Frost action	1.00	Ponding	1.00		
	Ponding	1.00				

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
125A:						
Selma---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00		
	Shrink-swell	0.50				
	Low strength	0.28				
131B:						
Alvin---------------	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
146A:						
Elliott-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.88
	Depth to saturated zone	0.88				
	Shrink-swell	0.50				
	Frost action	0.50				
146B:						
Elliott-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.88
	Depth to saturated zone	0.88				
	Shrink-swell	0.50				
	Frost action	0.50				
146B2:						
Elliott-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.88
	Depth to saturated zone	0.88				
	Shrink-swell	0.50				
	Frost action	0.50				
149A:						
Brenton-------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Depth to saturated zone	1.00		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
150A:						
Onarga--------------	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
150B:						
Onarga--------------	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
151A:						
Ridgeville----------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.75	Cutbanks cave	1.00	Depth to saturated zone	0.75
	Frost action	0.50	Depth to saturated zone	1.00		

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
153A:						
Pella	Very limited Depth to saturated zone Low strength Frost action Ponding Shrink-swell	 1.00 1.00 1.00 1.00 0.50	Very limited Cutbanks cave Depth to saturated zone Ponding	 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00
188A:						
Beardstown	Very limited Frost action Depth to saturated zone Shrink-swell Low strength	 1.00 0.94 0.50 0.28	Very limited Depth to saturated zone	 1.00	Somewhat limited Depth to saturated zone	 0.94
189A:						
Martinton	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	 1.00 0.75 0.50 0.50	Very limited Depth to saturated zone Too clayey	 1.00 0.50	Somewhat limited Depth to saturated zone	 0.75
201A:						
Gilford	Very limited Depth to saturated zone Frost action Ponding	 1.00 1.00 1.00	Very limited Cutbanks cave Depth to saturated zone Ponding	 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00
210A:						
Lena	Very limited Depth to saturated zone Subsidence Frost action Ponding	 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Content of organic matter Ponding	 1.00 1.00 1.00	Not rated	
223B:						
Varna	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Somewhat limited Depth to saturated zone Too clayey	 0.99 0.50	Not limited	
223B2:						
Varna	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Somewhat limited Depth to saturated zone	 0.99	Not limited	
223C2:						
Varna	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Somewhat limited Depth to saturated zone	 0.99	Not limited	

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
223C3:						
Varna---------------	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to saturated zone	0.99		
	Frost action	0.50				
232A:						
Ashkum--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Ponding	1.00	Ponding	1.00
	Frost action	1.00	Too clayey	0.50		
	Shrink-swell	1.00				
	Ponding	1.00				
235A:						
Bryce---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Ponding	1.00	Too clayey	1.00
	Frost action	1.00	Too clayey	0.50	Ponding	1.00
	Shrink-swell	1.00				
	Ponding	1.00				
240A:						
Plattville----------	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to bedrock	0.42		
	Shrink-swell	0.50				
	Frost action	0.50				
241C3:						
Chatsworth----------	Very limited		Very limited		Very limited	
	Low strength	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Shrink-swell	0.50			Droughty	0.98
	Frost action	0.50	Too clayey	0.50	Depth to saturated zone	0.08
	Depth to saturated zone	0.08				
293A:						
Andres--------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
	Depth to saturated zone	0.78				
	Shrink-swell	0.50				
	Frost action	0.50				
293B:						
Andres--------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
	Depth to saturated zone	0.78				
	Shrink-swell	0.50				
	Frost action	0.50				
294A:						
Symerton------------	Somewhat limited		Somewhat limited		Not limited	
	Shrink-swell	0.50	Depth to saturated zone	0.85		
	Frost action	0.50				

Table 17b.--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
294B:						
Symerton------------	Somewhat limited		Somewhat limited		Not limited	
	Shrink-swell	0.50	Depth to saturated zone	0.97		
	Frost action	0.50				
295A:						
Mokena--------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.75	Too clayey	0.50		
	Shrink-swell	0.50				
	Frost action	0.50				
298A:						
Beecher-------------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Low strength	1.00				
	Depth to saturated zone	0.99				
	Shrink-swell	0.50				
298B:						
Beecher-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Frost action	1.00				
	Shrink-swell	0.50				
311B:						
Ritchey-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Low strength	1.00			Droughty	0.54
	Shrink-swell	0.50				
	Frost action	0.50				
311C:						
Ritchey-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Low strength	1.00			Droughty	0.50
	Shrink-swell	0.50				
	Frost action	0.50				
311D:						
Ritchey-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Low strength	1.00	Slope	0.04	Droughty	0.60
	Shrink-swell	0.50			Slope	0.04
	Frost action	0.50				
	Slope	0.04				
315A:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Low strength	1.00			Droughty	0.64
	Shrink-swell	0.50				
	Frost action	0.50				

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
315B:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Low strength	1.00			Droughty	0.58
	Shrink-swell	0.50				
	Frost action	0.50				
315C2:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Low strength	1.00			Droughty	0.90
	Shrink-swell	0.50				
	Frost action	0.50				
330A:						
Peotone-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Ponding	1.00	Ponding	1.00
	Frost action	1.00	Too clayey	0.50		
	Shrink-swell	1.00				
	Ponding	1.00				
369A:						
Waupecan------------	Very limited		Very limited		Not limited	
	Low strength	1.00	Cutbanks cave	1.00		
	Frost action	1.00				
	Shrink-swell	0.50				
369B:						
Waupecan------------	Very limited		Very limited		Not limited	
	Low strength	1.00	Cutbanks cave	1.00		
	Frost action	1.00				
	Shrink-swell	0.50				
380A:						
Fieldon-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00		
403E:						
Elizabeth-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00			Droughty	0.77
	Shrink-swell	0.50				
	Frost action	0.50				
403F:						
Elizabeth-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00			Droughty	0.99
	Shrink-swell	0.50				
	Frost action	0.50				

Table 17b.--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
440A:						
Jasper	Somewhat limited		Very limited		Not limited	
	Low strength	0.90	Cutbanks cave	1.00		
	Shrink-swell	0.50				
	Frost action	0.50				
440B:						
Jasper	Somewhat limited		Very limited		Not limited	
	Low strength	0.90	Cutbanks cave	1.00		
	Shrink-swell	0.50				
	Frost action	0.50				
440C2:						
Jasper	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
493A:						
Bonfield	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Frost action	0.50	Content of large stones	0.01	Content of large stones	0.01
	Content of large stones	0.01				
494A:						
Kankakee	Somewhat limited		Somewhat limited		Somewhat limited	
	Frost action	0.50	Content of large stones	0.01	Content of large stones	0.01
	Content of large stones	0.01				
494B:						
Kankakee	Somewhat limited		Somewhat limited		Somewhat limited	
	Frost action	0.50	Content of large stones	0.28	Content of large stones	0.01
	Content of large stones	0.28				
501A:						
Morocco	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.75	Cutbanks cave	1.00	Depth to saturated zone	0.75
	Frost action	0.50	Depth to saturated zone	1.00	Droughty	0.03
503A:						
Rockton	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to bedrock	1.00	Depth to bedrock	0.42
	Shrink-swell	0.50				
	Frost action	0.50				
	Depth to bedrock	0.42				
503B:						
Rockton	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to bedrock	1.00	Depth to bedrock	0.42
	Shrink-swell	0.50				
	Frost action	0.50				
	Depth to bedrock	0.42				

Table 17b.--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
509A:						
Whalan--------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to bedrock	1.00	Depth to bedrock	0.42
	Shrink-swell	0.50				
	Frost action	0.50				
	Depth to bedrock	0.42				
509B:						
Whalan--------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to bedrock	1.00	Depth to bedrock	0.42
	Shrink-swell	0.50				
	Frost action	0.50				
	Depth to bedrock	0.42				
513A:						
Granby--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Frost action	0.50	Ponding	1.00	Droughty	0.02
516A:						
Faxon---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Low strength	1.00	Ponding	1.00	Depth to bedrock	0.42
	Ponding	1.00				
	Shrink-swell	0.50				
523A:						
Dunham--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Frost action	1.00	Ponding	1.00		
	Ponding	1.00				
	Shrink-swell	0.50				
526A:						
Grundelein----------	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Depth to saturated zone	1.00		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
530B:						
Ozaukee-------------	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to saturated zone	0.99		
	Shrink-swell	0.50				
	Frost action	0.50				
530C2:						
Ozaukee-------------	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.08
	Frost action	0.50				
	Depth to saturated zone	0.08				

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
530C3:						
Ozaukee	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to saturated zone	0.99		
	Frost action	0.50				
530D2:						
Ozaukee	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.08
	Frost action	0.50	Slope	0.04	Slope	0.04
	Depth to saturated zone	0.08				
	Slope	0.04				
530D3:						
Ozaukee	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Frost action	0.50	Slope	0.04	Slope	0.04
	Depth to saturated zone	0.19				
	Slope	0.04				
530E2:						
Ozaukee	Very limited		Very limited		Very limited	
	Low strength	1.00	Depth to saturated zone	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Depth to saturated zone	0.08
	Shrink-swell	0.50				
	Frost action	0.50				
	Depth to saturated zone	0.08				
530F:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to saturated zone	0.99		
	Shrink-swell	0.50				
	Frost action	0.50				
531B:						
Markham	Very limited		Very limited		Not limited	
	Low strength	1.00	Depth to saturated zone	1.00		
	Shrink-swell	0.50				
	Frost action	0.50				
531C2:						
Markham	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
	Frost action	0.50				
	Depth to saturated zone	0.03				
570B:						
Martinsville	Somewhat limited		Not limited		Not limited	
	Shrink-swell	0.50				
	Frost action	0.50				
	Low strength	0.05				
570C2:						
Martinsville	Somewhat limited		Very limited		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
	Low strength	0.05				

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
570D2:						
Martinsville--------	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Cutbanks cave	1.00	Slope	0.04
	Frost action	0.50	Slope	0.04		
	Low strength	0.05				
	Slope	0.04				
570E2:						
Martinsville--------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50				
	Frost action	0.50				
	Low strength	0.05				
570F:						
Martinsville--------	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
	Shrink-swell	0.50	Slope	1.00		
	Frost action	0.50				
	Low strength	0.05				
594A:						
Reddick-------------	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				
	Ponding	1.00				
	Shrink-swell	0.50				
610A:						
Tallmadge-----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00		
	Shrink-swell	0.50	Depth to bedrock	0.42		
664A:						
Rensselaer----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Low strength	1.00	Ponding	1.00		
	Ponding	1.00				
	Shrink-swell	0.50				
688B:						
Braidwood-----------	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
			Depth to dense layer	0.50		
688D:						
Braidwood-----------	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.91	Cutbanks cave	1.00	Slope	0.91
	Frost action	0.50	Slope	0.91		
			Depth to dense layer	0.50		

Table 17b.--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
688G:						
Braidwood-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
	Frost action	0.50	Slope	1.00		
			Depth to dense layer	0.50		
719A:						
Symerton------------	Somewhat limited		Somewhat limited		Not limited	
	Shrink-swell	0.50	Depth to saturated zone	0.99		
	Frost action	0.50				
719B:						
Symerton------------	Somewhat limited		Somewhat limited		Not limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00		
	Frost action	0.50				
719C2:						
Symerton------------	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Frost action	0.50				
	Depth to saturated zone	0.19				
740A:						
Darroch-------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.75	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Frost action	0.50				
741B:						
Oakville------------	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.36
741D:						
Oakville------------	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.04	Cutbanks cave	1.00	Droughty	0.45
			Slope	0.04	Slope	0.04
741E:						
Oakville------------	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
			Slope	1.00	Droughty	0.45
741F:						
Oakville------------	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
			Slope	1.00	Droughty	0.43
777A:						
Adrian--------------	Very limited		Very limited		Not rated	
	Depth to saturated zone	1.00	Cutbanks cave	1.00		
	Subsidence	1.00	Depth to saturated zone	1.00		
	Frost action	1.00	Ponding	1.00		
	Ponding	1.00	Content of organic matter	1.00		

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
779B:						
Chelsea	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.01
802B:						
Orthents, loamy	Somewhat limited		Somewhat limited		Not limited	
	Shrink-swell	0.50	Depth to saturated zone	0.47		
	Frost action	0.50				
	Low strength	0.28				
802F:						
Orthents, loamy	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Depth to saturated zone	0.47		
	Frost action	0.50				
	Low strength	0.28				
805B:						
Orthents, clayey	Very limited		Somewhat limited		Very limited	
	Low strength	1.00	Depth to saturated zone	0.99	Too clayey	1.00
	Shrink-swell	1.00			Droughty	0.51
	Frost action	0.50	Too clayey	0.50		
830:						
Landfills	Not rated		Not rated		Not rated	
864, 865:						
Pits	Not rated		Not rated		Not rated	
3082A:						
Millington	Very limited		Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Depth to saturated zone	1.00			Depth to saturated zone	1.00
			Ponding	1.00		
	Frost action	1.00	Flooding	0.80	Ponding	1.00
	Ponding	1.00				
	Low strength	0.90				
3107A:						
Sawmill	Very limited		Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Depth to saturated zone	1.00			Depth to saturated zone	1.00
			Ponding	1.00		
	Low strength	1.00	Flooding	0.80	Ponding	1.00
	Frost action	1.00				
	Ponding	1.00				
3302A:						
Ambraw	Very limited		Very limited		Very limited	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
	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
	Ponding	1.00	Flooding	0.80		
	Shrink-swell	0.50				

Table 17b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
8302A:						
Ambraw	Very limited		Very limited		Very limited	
	Flooding	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Frost action	1.00	Ponding	1.00	Flooding	0.60
	Ponding	1.00	Flooding	0.60		
	Shrink-swell	0.50				
8451A:						
Lawson	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Frost action	1.00	Flooding	0.60	Flooding	0.60
	Depth to saturated zone	0.75				
	Low strength	0.50				

Table 18a.--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: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
49A:				
Watseka	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Seepage	1.00		
69A:				
Milford	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00	Seepage	0.53
88B:				
Sparta	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	0.18
91A:				
Swygert	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
91B2:				
Swygert	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.08
98B:				
Ade	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	0.18
102A:				
La Hogue	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Seepage	1.00
	Restricted permeability	0.46		

Table 18a.--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
103A:				
Houghton------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Content of organic matter	1.00
	Subsidence	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Seepage	1.00
	Ponding	1.00	Ponding	1.00
125A:				
Selma---------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.46		
131B:				
Alvin---------------	Very limited		Very limited	
	Seepage	1.00	Seepage	1.00
			Slope	0.18
146A:				
Elliott-------------	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
146B:				
Elliott-------------	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.08
146B2:				
Elliott-------------	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.08
149A:				
Brenton-------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Seepage	1.00
	Restricted permeability	0.46		
150A:				
Onarga--------------	Very limited		Very limited	
	Seepage	1.00	Seepage	1.00
150B:				
Onarga--------------	Very limited		Very limited	
	Seepage	1.00	Seepage	1.00
			Slope	0.18

Table 18a.--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
151A:				
Ridgeville	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage	1.00	Depth to saturated zone	1.00
153A:				
Pella	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Seepage	1.00
	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.46		
188A:				
Beardstown	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46		
189A:				
Martinton	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00		
201A:				
Gilford	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Ponding	1.00
	Ponding	1.00		
210A:				
Lena	Very limited		Very limited	
	Depth to saturated zone	1.00	Content of organic matter	1.00
	Subsidence	1.00	Seepage	1.00
	Seepage	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
223B:				
Varna	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.08
	Depth to saturated zone	1.00	Depth to saturated zone	0.04
223B2:				
Varna	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.08
	Depth to saturated zone	1.00	Depth to saturated zone	0.04

Table 18a.--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
223C2:				
Varna---------------	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.68
	Depth to saturated zone	1.00	Depth to saturated zone	0.04
223C3:				
Varna---------------	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.68
	Depth to saturated zone	1.00	Depth to saturated zone	0.04
232A:				
Ashkum--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00		
235A:				
Bryce---------------	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00		
240A:				
Plattville----------	Somewhat limited		Very limited	
	Depth to bedrock	0.78	Seepage	1.00
	Restricted permeability	0.46	Depth to hard bedrock	0.42
241C3:				
Chatsworth----------	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.68
	Depth to saturated zone	1.00	Depth to saturated zone	0.56
293A:				
Andres--------------	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
293B:				
Andres--------------	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.18

Table 18a.--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
294A:				
Symerton------------	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00		
294B:				
Symerton------------	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.18
	Depth to saturated zone	1.00	Depth to saturated zone	0.01
295A:				
Mokena--------------	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
298A:				
Beecher-------------	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
298B:				
Beecher-------------	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.08
311B:				
Ritchey-------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
			Seepage	0.53
			Slope	0.08
311C:				
Ritchey-------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
			Slope	0.68
			Seepage	0.53
311D:				
Ritchey-------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Slope	0.04		
			Slope	1.00
			Seepage	0.53
315A:				
Channahon-----------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
			Seepage	0.53

Table 18a.--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
315B:				
Channahon	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
			Seepage	0.53
			Slope	0.08
315C2:				
Channahon	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
			Slope	0.68
			Seepage	0.53
330A:				
Peotone	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00		
369A:				
Waupecan	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00		
	Restricted permeability	0.46		
369B:				
Waupecan	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
			Slope	0.08
	Seepage	1.00		
	Restricted permeability	0.46		
380A:				
Fieldon	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
			Depth to saturated zone	1.00
	Filtering capacity	1.00	Ponding	1.00
	Seepage	1.00		
	Ponding	1.00		
	Restricted permeability	0.46		
403E:				
Elizabeth	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Slope	1.00	Slope	1.00
			Seepage	0.53
403F:				
Elizabeth	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Slope	1.00	Slope	1.00
			Seepage	0.53

Table 18a.--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
440A:				
Jasper	Very limited		Very limited	
	Seepage	1.00	Seepage	1.00
	Restricted permeability	0.46		
440B:				
Jasper	Very limited		Very limited	
	Seepage	1.00	Seepage	1.00
	Restricted permeability	0.46	Slope	0.18
440C2:				
Jasper	Very limited		Very limited	
	Seepage	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	1.00
493A:				
Bonfield	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage	1.00	Depth to saturated zone	1.00
	Content of large stones	0.01		
494A:				
Kankakee	Very limited		Very limited	
	Seepage	1.00	Seepage	1.00
	Content of large stones	0.01		
494B:				
Kankakee	Very limited		Very limited	
	Seepage	1.00	Seepage	1.00
	Content of large stones	0.28	Slope	0.08
501A:				
Morocco	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Seepage	1.00		
503A:				
Rockton	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Restricted permeability	0.46	Seepage	1.00
503B:				
Rockton	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Restricted permeability	0.46	Seepage	1.00
			Slope	0.08

Table 18a.--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
509A:				
Whalan	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Restricted permeability	1.00	Seepage	1.00
509B:				
Whalan	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Restricted permeability	0.46	Seepage	1.00
			Slope	0.08
513A:				
Granby	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Ponding	1.00
	Ponding	1.00		
516A:				
Faxon	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Ponding	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Ponding	1.00
523A:				
Dunham	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Ponding	1.00
	Ponding	1.00		
	Restricted permeability	0.46		
526A:				
Grundelein	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Seepage	1.00		
	Restricted permeability	0.46		
530B:				
Ozaukee	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.08
	Depth to saturated zone	1.00	Depth to saturated zone	0.04

Table 18a.--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
530C2:				
Ozaukee-------------	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.68
	Depth to saturated zone	1.00	Depth to saturated zone	0.56
530C3:				
Ozaukee-------------	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.68
	Depth to saturated zone	1.00	Depth to saturated zone	0.08
530D2:				
Ozaukee-------------	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.56
	Slope	0.04		
530D3:				
Ozaukee-------------	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Slope	0.04		
530E2:				
Ozaukee-------------	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.56
	Slope	1.00		
530F:				
Ozaukee-------------	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.04
	Slope	1.00		
531B:				
Markham-------------	Very limited		Somewhat limited	
	Restricted permeability	1.00	Depth to saturated zone	0.19
	Depth to saturated zone	1.00	Slope	0.08
531C2:				
Markham-------------	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.68
	Depth to saturated zone	1.00	Depth to saturated zone	0.44

Table 18a.--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
570B:				
Martinsville--------	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.53
	Restricted permeability	0.46	Slope	0.08
570C2:				
Martinsville--------	Very limited		Very limited	
	Seepage	1.00	Seepage	1.00
	Restricted permeability	0.46	Slope	0.68
570D2:				
Martinsville--------	Very limited		Very limited	
	Seepage	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	1.00
	Slope	0.04		
570E2:				
Martinsville--------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	0.53
	Restricted permeability	0.46		
570F:				
Martinsville--------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00
	Restricted permeability	0.46		
594A:				
Reddick-------------	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Ponding	1.00
			Seepage	0.53
	Ponding	1.00		
610A:				
Tallmadge-----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
			Depth to saturated zone	1.00
	Ponding	1.00		
	Depth to bedrock	0.78	Ponding	1.00
	Restricted permeability	0.46	Depth to hard bedrock	0.42
664A:				
Rensselaer----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
			Depth to saturated zone	1.00
	Seepage	1.00		
	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.46		

Table 18a.--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
688B:				
Braidwood	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.32
688D:				
Braidwood	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
			Seepage	0.53
	Slope	0.91		
688G:				
Braidwood	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00	Seepage	0.53
719A:				
Symerton	Very limited		Very limited	
	Restricted permeability	1.00	Seepage	1.00
			Depth to saturated zone	0.08
	Depth to saturated zone	1.00		
719B:				
Symerton	Very limited		Very limited	
	Restricted permeability	1.00	Seepage	1.00
			Depth to saturated zone	0.12
	Depth to saturated zone	1.00		
719C2:				
Symerton	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
			Depth to saturated zone	0.75
	Depth to saturated zone	1.00		
			Seepage	0.53
740A:				
Darroch	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Seepage	1.00
	Restricted permeability	0.46		
741B:				
Oakville	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
			Slope	0.18
	Seepage	1.00		
741D:				
Oakville	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
			Slope	1.00
	Seepage	1.00		
	Slope	0.04		

Table 18a.--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
741E:				
Oakville------------	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00
	Slope	1.00		
741F:				
Oakville------------	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Seepage	1.00		
777A:				
Adrian--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Subsidence	1.00	Ponding	1.00
	Seepage	1.00	Content of organic matter	1.00
	Ponding	1.00		
779B:				
Chelsea-------------	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage	1.00	Slope	0.18
802B:				
Orthents, loamy-----	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.18
	Depth to saturated zone	0.94		
802F:				
Orthents, loamy-----	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00		
	Depth to saturated zone	0.94		
805B:				
Orthents, clayey----	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.08
	Depth to saturated zone	1.00	Depth to saturated zone	0.04
830:				
Landfills-----------	Not rated		Not rated	
864, 865:				
Pits----------------	Not rated		Not rated	

Table 18a.--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
3082A:				
Millington----------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.46	Seepage	0.53
3107A:				
Sawmill------------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.46	Seepage	0.53
3302A:				
Ambraw-------------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.46		
8302A:				
Ambraw-------------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.46		
8451A:				
Lawson-------------	Very limited		Very limited	
	Flooding	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 18b.--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
49A:						
Watseka	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
	Seepage	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	1.00			Depth to saturated zone	1.00
69A:						
Milford	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50
88B:						
Sparta	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Too sandy	0.50
91A:						
Swygert	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Too clayey	1.00			Depth to saturated zone	1.00
91B2:						
Swygert	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
					Hard to compact	1.00
	Too clayey	1.00			Depth to saturated zone	1.00
98B:						
Ade	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
102A:						
La Hogue	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00				
103A:						
Houghton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Content of organic matter	1.00	Seepage	1.00	Content of organic matter	1.00
			Ponding	1.00		
	Seepage	1.00			Ponding	1.00
	Ponding	1.00			Seepage	0.16

Table 18b.--Sanitary Facilities

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
125A:						
Selma	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00			Seepage	0.52
131B:						
Alvin	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Seepage	0.52
	Too sandy	1.00			Too sandy	0.50
146A:						
Elliott	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
146B:						
Elliott	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
146B2:						
Elliott	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
149A:						
Brenton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00			Too clayey	0.50
	Too clayey	0.50				
150A:						
Onarga	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
150B:						
Onarga	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
151A:						
Ridgeville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Seepage	1.00	Seepage	0.22
153A:						
Pella	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00			Too clayey	0.50
	Too clayey	0.50				

Table 18b.--Sanitary Facilities

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
188A:						
Beardstown	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00				
189A:						
Martinton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
201A:						
Gilford	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Seepage	1.00	Seepage	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too sandy	1.00			Too sandy	1.00
210A:						
Lena	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Seepage	1.00	Content of organic matter	1.00
	Content of organic matter	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00			Seepage	0.52
223B:						
Varna	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Depth to saturated zone	0.04	Too clayey	1.00
	Depth to saturated zone	0.68			Depth to saturated zone	0.24
223B2:						
Varna	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24
223C2:						
Varna	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24
223C3:						
Varna	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24
232A:						
Ashkum	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50

Table 18b.--Sanitary Facilities

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
235A:						
Bryce	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Ponding	1.00	Too clayey	1.00
	Ponding	1.00			Hard to compact	1.00
					Ponding	1.00
240A:						
Plattville	Very limited		Somewhat limited		Somewhat limited	
	Depth to bedrock	1.00	Depth to bedrock	0.42	Too clayey	0.50
	Too clayey	0.50			Depth to bedrock	0.42
241C3:						
Chatsworth	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Depth to saturated zone	0.56	Too clayey	1.00
	Depth to saturated zone	0.98			Hard to compact	1.00
					Depth to saturated zone	0.76
293A:						
Andres	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
293B:						
Andres	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
294A:						
Symerton	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
	Depth to saturated zone	0.14			Depth to saturated zone	0.01
294B:						
Symerton	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.53	Depth to saturated zone	0.01	Depth to saturated zone	0.14
295A:						
Mokena	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00			Too clayey	0.50
298A:						
Beecher	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
298B:						
Beecher	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50

Table 18b.--Sanitary Facilities

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
311B:						
Ritchey-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	0.50			Too clayey	0.50
311C:						
Ritchey-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	0.50			Too clayey	0.50
311D:						
Ritchey-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
315A:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
315B:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too clayey	0.50			Too clayey	0.50
315C2:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
330A:						
Peotone-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Ponding	1.00	Too clayey	1.00
	Ponding	1.00			Hard to compact	1.00
					Ponding	1.00
369A:						
Waupecan------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Too clayey	0.50
	Too clayey	0.50				
369B:						
Waupecan------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Too clayey	0.50
	Too clayey	0.50				
380A:						
Fieldon-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Ponding	1.00	Seepage	1.00
	Ponding	1.00			Ponding	1.00
403E:						
Elizabeth-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Slope	1.00	Slope	1.00

Table 18b.--Sanitary Facilities

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
403F:						
Elizabeth-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
440A:						
Jasper--------------	Very limited		Not limited		Somewhat limited	
	Seepage	1.00			Too clayey	0.50
	Too clayey	0.50				
440B:						
Jasper--------------	Very limited		Not limited		Not limited	
	Seepage	1.00				
440C2:						
Jasper--------------	Very limited		Not limited		Not limited	
	Seepage	1.00				
493A:						
Bonfield------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Seepage	1.00	Seepage	0.52
	Content of large stones	0.46			Content of large stones	0.46
494A:						
Kankakee------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Seepage	0.52
	Content of large stones	0.36			Content of large stones	0.36
494B:						
Kankakee------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Content of large stones	0.78
	Content of large stones	0.78			Seepage	0.52
501A:						
Morocco-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
	Seepage	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	1.00			Depth to saturated zone	1.00
503A:						
Rockton-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Too clayey	0.50	Depth to bedrock	1.00	Too clayey	0.50
503B:						
Rockton-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Too clayey	0.50	Depth to bedrock	1.00	Too clayey	0.50
509A:						
Whalan--------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Too clayey	0.50	Depth to bedrock	1.00	Too clayey	0.50

Table 18b.--Sanitary Facilities

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
509B:						
Whalan	Very limited Depth to bedrock Too clayey	 1.00 0.50	Very limited Seepage Depth to bedrock	 1.00 1.00	Very limited Depth to bedrock Too clayey	 1.00 0.50
513A:						
Granby	Very limited Depth to saturated zone Seepage Too sandy Ponding	 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Seepage Ponding	 1.00 1.00 1.00	Very limited Depth to saturated zone Too sandy Seepage Ponding	 1.00 1.00 1.00 1.00
516A:						
Faxon	Very limited Depth to saturated zone Depth to bedrock Ponding Too clayey	 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Seepage Depth to bedrock Ponding	 1.00 1.00 1.00 1.00	Very limited Depth to bedrock Depth to saturated zone Ponding Too clayey	 1.00 1.00 1.00 0.50
523A:						
Dunham	Very limited Depth to saturated zone Seepage Ponding Too clayey	 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Seepage Ponding	 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey	 1.00 1.00 0.50
526A:						
Grundelein	Very limited Depth to saturated zone Seepage Too sandy	 1.00 1.00 1.00	Very limited Depth to saturated zone Seepage	 1.00 1.00	Very limited Too sandy Seepage Depth to saturated zone Too clayey	 1.00 1.00 1.00 0.50
530B:						
Ozaukee	Somewhat limited Depth to saturated zone Too clayey	 0.68 0.50	Somewhat limited Depth to saturated zone	 0.04	Somewhat limited Too clayey Depth to saturated zone	 0.50 0.24
530C2:						
Ozaukee	Somewhat limited Depth to saturated zone Too clayey	 0.98 0.50	Somewhat limited Depth to saturated zone	 0.56	Somewhat limited Depth to saturated zone Too clayey	 0.76 0.50
530C3:						
Ozaukee	Somewhat limited Depth to saturated zone Too clayey	 0.76 0.50	Somewhat limited Depth to saturated zone	 0.08	Somewhat limited Too clayey Depth to saturated zone	 0.50 0.32
530D2:						
Ozaukee	Somewhat limited Depth to saturated zone Too clayey Slope	 0.98 0.50 0.04	Somewhat limited Depth to saturated zone Slope	 0.56 0.04	Somewhat limited Depth to saturated zone Too clayey Slope	 0.76 0.50 0.04

Table 18b.--Sanitary Facilities

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
530D3:						
Ozaukee	Very limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.86
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
530E2:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	0.56	Depth to saturated zone	0.76
	Too clayey	0.50			Too clayey	0.50
530F:						
Ozaukee	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to saturated zone	0.68	Depth to saturated zone	0.04	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24
531B:						
Markham	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.19	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.47
531C2:						
Markham	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.95	Depth to saturated zone	0.44	Depth to saturated zone	0.68
	Too clayey	0.50			Too clayey	0.50
570B:						
Martinsville	Very limited		Not limited		Not limited	
	Seepage	1.00				
570C2:						
Martinsville	Very limited		Not limited		Somewhat limited	
	Seepage	1.00			Seepage	0.22
570D2:						
Martinsville	Very limited		Somewhat limited		Somewhat limited	
	Seepage	1.00	Slope	0.04	Seepage	0.22
	Slope	0.04			Slope	0.04
570E2:						
Martinsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00				
570F:						
Martinsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00				
594A:						
Reddick	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50

Table 18b.--Sanitary Facilities

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
610A:						
Tallmadge-----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to bedrock	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to bedrock	0.42	Depth to bedrock	0.42
664A:						
Rensselaer----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Ponding	1.00	Too sandy	1.00
	Too sandy	1.00			Ponding	1.00
	Ponding	1.00			Seepage	0.52
					Too clayey	0.50
688B:						
Braidwood-----------	Not limited		Not limited		Not limited	
688D:						
Braidwood-----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.91	Slope	0.91	Slope	0.91
688G:						
Braidwood-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
719A:						
Symerton------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.76	Depth to saturated zone	0.08	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.32
719B:						
Symerton------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.80	Depth to saturated zone	0.12	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.38
719C2:						
Symerton------------	Very limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.86
	Too clayey	0.50			Too clayey	0.50
740A:						
Darroch-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Seepage	1.00	Seepage	0.22
741B:						
Oakville------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
741D:						
Oakville------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Slope	0.04	Seepage	1.00
	Slope	0.04			Slope	0.04

Table 18b.--Sanitary Facilities

Map symbol and soil name	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
741E:						
Oakville	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Slope	1.00	Seepage	1.00
	Slope	1.00			Slope	1.00
741F:						
Oakville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
777A:						
Adrian	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Seepage	1.00	Content of organic matter	1.00
	Content of organic matter	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00			Seepage	0.16
779B:						
Chelsea	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	0.52
802B:						
Orthents, loamy	Not limited		Not limited		Not limited	
802F:						
Orthents, loamy	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
805B:						
Orthents, clayey	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Depth to saturated zone	0.04	Too clayey	1.00
	Depth to saturated zone	0.68			Depth to saturated zone	0.24
830:						
Landfills	Not rated		Not rated		Not rated	
864, 865:						
Pits	Not rated		Not rated		Not rated	
3082A:						
Millington	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00		
3107A:						
Sawmill	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Too clayey	0.50
	Too clayey	0.50				

Table 18b.--Sanitary Facilities

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
3302A:						
Ambraw	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Seepage	1.00	Ponding	1.00	Too clayey	0.50
	Ponding	1.00				
	Too clayey	0.50				
8302A:						
Ambraw	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Seepage	1.00	Ponding	1.00	Too clayey	0.50
	Ponding	1.00				
	Too clayey	0.50				
8451A:						
Lawson	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		

Table 19a.--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 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
49A:				
Watseka	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.20
	Thickest layer	0.00	Thickest layer	0.27
69A:				
Milford	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
88B:				
Sparta	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.04
	Thickest layer	0.00	Bottom layer	0.31
91A:				
Swygert	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
91B2:				
Swygert	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
98B:				
Ade	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.10
	Thickest layer	0.00	Bottom layer	0.18
102A:				
La Hogue	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
103A:				
Houghton	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
125A:				
Selma	Poor		Poor	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
131B:				
Alvin	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
146A:				
Elliott	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
146B:				
Elliott-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
146B2:				
Elliott-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
149A:				
Brenton-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
150A:				
Onarga--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.08
150B:				
Onarga--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.08
151A:				
Ridgeville----------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.14
153A:				
Pella---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
188A:				
Beardstown----------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.04
189A:				
Martinton-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
201A:				
Gilford-------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.33
210A:				
Lena----------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
223B:				
Varna---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
223B2:				
Varna---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
223C2:				
Varna---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
223C3:				
Varna---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
232A:				
Ashkum--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
235A:				
Bryce---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
240A:				
Plattville----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
241C3:				
Chatsworth----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
293A:				
Andres--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
293B:				
Andres--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
294A:				
Symerton------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
294B:				
Symerton------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
295A:				
Mokena--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
298A:				
Beecher-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
298B:				
Beecher-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
311B:				
Ritchey-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
311C:				
Ritchey-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
311D:				
Ritchey-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
315A:				
Channahon-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
315B:				
Channahon-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
315C2:				
Channahon-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
330A:				
Peotone-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
369A:				
Waupecan------------	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.43	Bottom layer	0.43
369B:				
Waupecan------------	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.43	Bottom layer	0.43
380A:				
Fieldon-------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.07

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
403E:				
Elizabeth-----------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
403F:				
Elizabeth-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
440A:				
Jasper-------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.05
440B:				
Jasper-------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.05
440C2:				
Jasper-------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.05
493A:				
Bonfield------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
494A:				
Kankakee------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
494B:				
Kankakee------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
501A:				
Morocco-------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.03
	Thickest layer	0.00	Bottom layer	0.20
503A:				
Rockton-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
503B:				
Rockton-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
509A:				
Whalan-------------	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
509B:				
Whalan--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
513A:				
Granby--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.06
	Thickest layer	0.00	Bottom layer	0.38
516A:				
Faxon---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
523A:				
Dunham--------------	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.64	Bottom layer	0.10
526A:				
Grundelein----------	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.64	Bottom layer	0.10
530B:				
Ozaukee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530C2:				
Ozaukee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530C3:				
Ozaukee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530D2:				
Ozaukee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530D3:				
Ozaukee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530E2:				
Ozaukee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530F:				
Ozaukee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
531B:				
Markham------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
531C2:				
Markham------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
570B:				
Martinsville--------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.03
570C2:				
Martinsville--------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.03
570D2:				
Martinsville--------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.03
570E2:				
Martinsville--------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.03
570F:				
Martinsville--------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.03
594A:				
Reddick------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
610A:				
Tallmadge-----------	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
664A:				
Rensselaer----------	Poor		Poor	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
688B:				
Braidwood-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
688D:				
Braidwood-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
688G:				
Braidwood-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
719A:				
Symerton------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
719B:				
Symerton------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
719C2:				
Symerton------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
740A:				
Darroch-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
741B:				
Oakville------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.18
	Thickest layer	0.00	Thickest layer	0.18
741D:				
Oakville------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.18
	Thickest layer	0.00	Thickest layer	0.18
741E:				
Oakville------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.18
	Thickest layer	0.00	Thickest layer	0.18
741F:				
Oakville------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.18
	Thickest layer	0.00	Thickest layer	0.18
777A:				
Adrian--------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.10
779B:				
Chelsea-------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.03
	Thickest layer	0.00	Bottom layer	0.10
802B:				
Orthents, loamy-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
802F:				
Orthents, loamy	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
805B:				
Orthents, clayey	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
830:				
Landfills	Not rated		Not rated	
864, 865:				
Pits	Not rated		Not rated	
3082A:				
Millington	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3107A:				
Sawmill	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3302A:				
Ambraw	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.10
8302A:				
Ambraw	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.10
8451A:				
Lawson	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19b.--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
49A:						
Watseka	Poor		Fair		Poor	
	Too sandy	0.00	Depth to saturated zone	0.14	Too sandy	0.00
	Wind erosion	0.00			Depth to saturated zone	0.14
	Low content of organic matter	0.12				
	Droughty	0.92				
69A:						
Milford	Fair		Poor		Poor	
	Too clayey	0.05	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00	Too clayey	0.04
			Shrink-swell	0.78		
88B:						
Sparta	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Low content of organic matter	0.12				
91A:						
Swygert	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.12	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Carbonate content	0.80	Shrink-swell	0.24		
91B2:						
Swygert	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Carbonate content	0.80	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Low content of organic matter	0.92	Shrink-swell	0.26		
98B:						
Ade	Poor		Good		Fair	
	Wind erosion	0.00			Too sandy	0.08
	Too sandy	0.08				
	Low content of organic matter	0.18				
102A:						
La Hogue	Good		Fair		Fair	
			Depth to saturated zone	0.14	Depth to saturated zone	0.14
103A:						
Houghton	Poor		Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Content of organic matter	0.00			Content of organic matter	0.00

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
125A:						
Selma---------------	Good		Poor		Poor	
			Depth to saturated zone	0.00	Hard to reclaim (dense layer)	0.00
			Shrink-swell	0.98	Depth to saturated zone	0.00
131B:						
Alvin---------------	Fair		Good		Good	
	Low content of organic matter	0.05				
146A:						
Elliott-------------	Fair		Poor		Fair	
	Low content of organic matter	0.18	Low strength	0.00	Depth to saturated zone	0.07
	Carbonate content	0.84	Depth to saturated zone	0.07	Too clayey	0.55
	Too clayey	0.92	Shrink-swell	0.97		
146B:						
Elliott-------------	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.07
	Carbonate content	0.84	Depth to saturated zone	0.07	Too clayey	0.55
	Water erosion	0.90			Hard to reclaim (dense layer)	0.90
	Too clayey	0.92				
146B2:						
Elliott-------------	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.07
	Carbonate content	0.84	Depth to saturated zone	0.07	Hard to reclaim (dense layer)	0.29
	Water erosion	0.90				
	Too clayey	0.92			Too clayey	0.55
149A:						
Brenton-------------	Good		Fair		Fair	
			Depth to saturated zone	0.14	Depth to saturated zone	0.14
			Low strength	0.22		
			Shrink-swell	0.99		
150A:						
Onarga--------------	Fair		Good		Fair	
	Low content of organic matter	0.12			Hard to reclaim (dense layer)	0.90
150B:						
Onarga--------------	Fair		Good		Fair	
	Low content of organic matter	0.12			Hard to reclaim (dense layer)	0.46
151A:						
Ridgeville----------	Fair		Fair		Fair	
	Low content of organic matter	0.68	Depth to saturated zone	0.14	Depth to saturated zone	0.14

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
153A:						
Pella	Fair		Poor		Poor	
	Carbonate content	0.80	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too clayey	0.98	Low strength	0.00	Too clayey	0.81
			Shrink-swell	0.99		
188A:						
Beardstown	Fair		Fair		Fair	
	Low content of organic matter	0.50	Depth to saturated zone	0.04	Depth to saturated zone	0.04
			Low strength	0.78		
			Shrink-swell	0.98		
189A:						
Martinton	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.02
	Carbonate content	0.97	Depth to saturated zone	0.14	Depth to saturated zone	0.14
			Shrink-swell	0.89		
201A:						
Gilford	Good		Poor		Poor	
			Depth to saturated zone	0.00	Depth to saturated zone	0.00
210A:						
Lena	Poor		Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Content of organic matter	0.00			Content of organic matter	0.00
	Carbonate content	0.80				
223B:						
Varna	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Carbonate content	0.97	Shrink-swell	0.97	Depth to saturated zone	0.98
	Water erosion	0.99	Depth to saturated zone	0.98		
223B2:						
Varna	Fair		Poor		Fair	
	Too clayey	0.08	Low strength	0.00	Too clayey	0.06
	Low content of organic matter	0.12	Depth to saturated zone	0.98	Depth to saturated zone	0.98
	Water erosion	0.90			Hard to reclaim (dense layer)	0.99
	Carbonate content	0.97				
223C2:						
Varna	Fair		Poor		Fair	
	Too clayey	0.08	Low strength	0.00	Too clayey	0.06
	Low content of organic matter	0.68	Shrink-swell	0.95	Depth to saturated zone	0.98
	Carbonate content	0.97	Depth to saturated zone	0.98		
	Water erosion	0.99				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
223C3:						
Varna---------------	Fair		Poor		Poor	
	Low content of organic matter	0.12	Low strength	0.00	Hard to reclaim (dense layer)	0.00
	Too clayey	0.76	Depth to saturated zone	0.98	Too clayey	0.44
	Water erosion	0.90			Carbonate content	0.97
	Carbonate content	0.97			Depth to saturated zone	0.98
232A:						
Ashkum--------------	Poor		Poor		Poor	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.18	Low strength	0.00	Too clayey	0.00
	Carbonate content	0.97	Shrink-swell	0.60		
235A:						
Bryce---------------	Poor		Poor		Poor	
	Too clayey	0.00	Depth to saturated zone	0.00	Too clayey	0.00
	Carbonate content	0.97	Low strength	0.00	Depth to saturated zone	0.00
			Shrink-swell	0.14		
240A:						
Plattville----------	Fair		Poor		Fair	
	Too clayey	0.98	Low strength	0.00	Too clayey	0.76
			Depth to bedrock	0.58		
			Shrink-swell	0.98		
241C3:						
Chatsworth----------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Hard to reclaim (dense layer)	0.00
	Droughty	0.00	Depth to saturated zone	0.68	Too clayey	0.00
	Low content of organic matter	0.12	Shrink-swell	0.87	Depth to saturated zone	0.68
	Carbonate content	0.97			Carbonate content	0.97
	Water erosion	0.99				
293A:						
Andres--------------	Fair		Poor		Fair	
	Low content of organic matter	0.18	Low strength	0.00	Depth to saturated zone	0.12
	Too clayey	0.82	Depth to saturated zone	0.12	Too clayey	0.64
	Carbonate content	0.84	Shrink-swell	0.96		
293B:						
Andres--------------	Fair		Poor		Fair	
	Too clayey	0.82	Low strength	0.00	Depth to saturated zone	0.12
	Carbonate content	0.84	Depth to saturated zone	0.12	Too clayey	0.64
	Water erosion	0.99	Shrink-swell	0.97		
294A:						
Symerton------------	Fair		Fair		Good	
	Low content of organic matter	0.68	Shrink-swell	0.96		
	Carbonate content	0.97				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
294B:						
Symerton------------	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Rock fragments	0.12
	Water erosion	0.90			Depth to saturated zone	0.99
	Carbonate content	0.97				
295A:						
Mokena--------------	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.14
	Too clayey	0.82	Depth to saturated zone	0.14	Too clayey	0.64
	Carbonate content	0.97	Shrink-swell	0.91	Hard to reclaim (dense layer)	0.99
298A:						
Beecher-------------	Fair		Poor		Fair	
	Low content of organic matter	0.08	Low strength	0.00	Depth to saturated zone	0.01
	Carbonate content	0.84	Depth to saturated zone	0.01	Too clayey	0.55
	Too clayey	0.92			Hard to reclaim (dense layer)	0.97
298B:						
Beecher-------------	Fair		Poor		Poor	
	Too clayey	0.02	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.08	Low strength	0.00	Too clayey	0.01
	Carbonate content	0.84			Hard to reclaim (dense layer)	0.94
	Water erosion	0.90				
311B:						
Ritchey-------------	Poor		Poor		Poor	
	Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Droughty	0.00	Low strength	0.00	Too clayey	0.67
	Low content of organic matter	0.68	Shrink-swell	0.87		
	Too clayey	0.98				
	Water erosion	0.99				
311C:						
Ritchey-------------	Poor		Poor		Poor	
	Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Droughty	0.00	Low strength	0.00		
	Water erosion	0.99	Shrink-swell	0.87		
311D:						
Ritchey-------------	Poor		Poor		Poor	
	Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Droughty	0.00	Low strength	0.00	Too clayey	0.67
	Low content of organic matter	0.68	Shrink-swell	0.87	Slope	0.96
	Too clayey	0.98				
	Water erosion	0.99				
315A:						
Channahon-----------	Poor		Poor		Poor	
	Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Droughty	0.00	Low strength	0.00		
			Shrink-swell	0.87		

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
315B:						
Channahon-----------	Poor		Poor		Poor	
	Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Droughty	0.00	Low strength	0.00		
			Shrink-swell	0.96		
315C2:						
Channahon-----------	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Depth to bedrock	0.00	Low strength	0.00		
	Low content of organic matter	0.82				
330A:						
Peotone-------------	Poor		Poor		Poor	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.12		
369A:						
Waupecan------------	Fair		Poor		Fair	
	Low content of organic matter	0.88	Low strength	0.00	Hard to reclaim (rock fragments)	0.12
369B:						
Waupecan------------	Fair		Poor		Fair	
	Low content of organic matter	0.88	Low strength	0.00	Hard to reclaim (rock fragments)	0.12
	Water erosion	0.99				
380A:						
Fieldon-------------	Fair		Poor		Poor	
	Low content of organic matter	0.08	Depth to saturated zone	0.00	Depth to saturated zone	0.00
403E:						
Elizabeth-----------	Poor		Poor		Poor	
	Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Droughty	0.00	Low strength	0.00	Slope	0.00
	Carbonate content	0.92	Shrink-swell	0.92		
			Slope	0.98		
403F:						
Elizabeth-----------	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
	Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
	Carbonate content	0.92	Low strength	0.00		
			Shrink-swell	0.87		
440A:						
Jasper--------------	Good		Poor		Good	
			Low strength	0.00		
440B:						
Jasper--------------	Fair		Good		Good	
	Low content of organic matter	0.18				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
440C2:						
Jasper	Fair		Good		Good	
	Low content of organic matter	0.18				
493A:						
Bonfield	Fair		Fair		Poor	
	Low content of organic matter	0.12	Depth to saturated zone	0.14	Hard to reclaim (rock fragments)	0.00
	Cobble content	0.60	Cobble content	0.36	Depth to saturated zone	0.14
494A:						
Kankakee	Fair		Fair		Poor	
	Low content of organic matter	0.12	Cobble content	0.56	Hard to reclaim (rock fragments)	0.00
	Cobble content	0.69				
494B:						
Kankakee	Fair		Fair		Poor	
	Low content of organic matter	0.12	Cobble content	0.01	Hard to reclaim (rock fragments)	0.00
	Cobble content	0.26			Rock fragments	0.00
501A:						
Morocco	Poor		Fair		Fair	
	Wind erosion	0.00	Depth to saturated zone	0.14	Too sandy	0.08
	Too sandy	0.08			Depth to saturated zone	0.14
	Low content of organic matter	0.12			Too acid	0.95
503A:						
Rockton	Fair		Poor		Fair	
	Depth to bedrock	0.58	Depth to bedrock	0.00	Depth to bedrock	0.58
			Low strength	0.00		
			Shrink-swell	0.96		
503B:						
Rockton	Fair		Poor		Fair	
	Depth to bedrock	0.58	Depth to bedrock	0.00	Depth to bedrock	0.58
	Too clayey	0.98	Low strength	0.00	Too clayey	0.76
	Droughty	0.99	Shrink-swell	0.82		
509A:						
Whalan	Fair		Poor		Fair	
	Low content of organic matter	0.02	Depth to bedrock	0.00	Too clayey	0.52
			Low strength	0.00	Depth to bedrock	0.58
	Depth to bedrock	0.58	Shrink-swell	0.92		
	Droughty	0.92				
	Too clayey	0.98				
509B:						
Whalan	Fair		Poor		Fair	
	Low content of organic matter	0.02	Depth to bedrock	0.00	Too clayey	0.52
			Low strength	0.00	Depth to bedrock	0.58
	Depth to bedrock	0.58	Shrink-swell	0.92		
	Droughty	0.95				
	Too clayey	0.98				
	Water erosion	0.99				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
513A:						
Granby	Poor		Poor		Poor	
	Too sandy	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.12			Too sandy	0.00
516A:						
Faxon	Fair		Poor		Poor	
	Depth to bedrock	0.58	Depth to bedrock	0.00	Depth to saturated zone	0.00
	Droughty	0.69	Depth to saturated zone	0.00	Depth to bedrock	0.58
	Low content of organic matter	0.96	Low strength	0.00	Too clayey	0.73
	Too clayey	0.98	Shrink-swell	0.99		
523A:						
Dunham	Fair		Poor		Poor	
	Carbonate content	0.46	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00	Hard to reclaim (rock fragments)	0.08
			Shrink-swell	0.99		
526A:						
Grundelein	Fair		Fair		Fair	
	Low content of organic matter	0.12	Depth to saturated zone	0.14	Hard to reclaim (rock fragments)	0.08
	Carbonate content	0.46	Shrink-swell	0.99	Depth to saturated zone	0.14
530B:						
Ozaukee	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Too clayey	0.19
	Too clayey	0.32	Depth to saturated zone	0.98	Depth to saturated zone	0.98
	Carbonate content	0.68			Hard to reclaim (dense layer)	0.99
	Water erosion	0.90				
530C2:						
Ozaukee	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.12	Depth to saturated zone	0.68	Hard to reclaim (dense layer)	0.35
	Carbonate content	0.68			Depth to saturated zone	0.68
	Water erosion	0.90				
530C3:						
Ozaukee	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Hard to reclaim (dense layer)	0.29
	Carbonate content	0.68	Depth to saturated zone	0.95	Too clayey	0.57
	Water erosion	0.90			Carbonate content	0.68
	Too clayey	0.98			Depth to saturated zone	0.95
					Rock fragments	0.97
530D2:						
Ozaukee	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.12	Depth to saturated zone	0.68	Hard to reclaim (dense layer)	0.35
	Carbonate content	0.68			Depth to saturated zone	0.68
	Water erosion	0.90			Slope	0.96

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
530D3:						
Ozaukee-------------	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Hard to reclaim (dense layer)	0.16
	Carbonate content	0.68	Depth to saturated zone	0.53	Depth to saturated zone	0.53
	Water erosion	0.90			Too clayey	0.57
	Too clayey	0.98			Carbonate content	0.68
					Slope	0.96
530E2:						
Ozaukee-------------	Fair		Poor		Poor	
	Too clayey	0.02	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.12	Depth to saturated zone	0.68	Too clayey	0.01
	Carbonate content	0.68	Slope	0.98	Hard to reclaim (dense layer)	0.65
	Water erosion	0.90			Depth to saturated zone	0.68
530F:						
Ozaukee-------------	Fair		Poor		Poor	
	Too clayey	0.02	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.24	Slope	0.00	Too clayey	0.01
	Carbonate content	0.68	Depth to saturated zone	0.98	Hard to reclaim (dense layer)	0.94
	Water erosion	0.90			Depth to saturated zone	0.98
531B:						
Markham-------------	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.12	Depth to saturated zone	0.89	Hard to reclaim (dense layer)	0.71
	Water erosion	0.90			Depth to saturated zone	0.89
	Carbonate content	0.97				
531C2:						
Markham-------------	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Low content of organic matter	0.12	Depth to saturated zone	0.76	Hard to reclaim (dense layer)	0.46
	Water erosion	0.90			Depth to saturated zone	0.76
	Carbonate content	0.97				
570B:						
Martinsville--------	Fair		Fair		Fair	
	Low content of organic matter	0.68	Shrink-swell	0.98	Too acid	0.92
	Water erosion	0.99				
570C2:						
Martinsville--------	Fair		Fair		Good	
	Low content of organic matter	0.68				
	Water erosion	0.99				
570D2:						
Martinsville--------	Fair		Good		Fair	
	Low content of organic matter	0.68			Too acid	0.92
	Water erosion	0.99			Slope	0.96

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
570E2:						
Martinsville--------	Fair		Fair		Poor	
	Low content of organic matter	0.68	Slope	0.98	Slope	0.00
	Water erosion	0.99	Shrink-swell	0.98		
570F:						
Martinsville--------	Fair		Poor		Poor	
	Low content of organic matter	0.68	Slope	0.00	Slope	0.00
	Water erosion	0.99	Shrink-swell	0.99		
594A:						
Reddick-------------	Fair		Poor		Poor	
	Carbonate content	0.84	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00		
			Shrink-swell	0.87		
610A:						
Tallmadge-----------	Good		Poor		Poor	
			Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Depth to bedrock	0.58		
664A:						
Rensselaer----------	Fair		Poor		Poor	
	Low content of organic matter	0.50	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too clayey	0.68	Shrink-swell	0.99	Too clayey	0.56
688B:						
Braidwood-----------	Fair		Good		Fair	
	Low content of organic matter	0.68			Hard to reclaim (dense layer)	0.03
	Water erosion	0.90			Carbonate content	0.92
	Carbonate content	0.92				
688D:						
Braidwood-----------	Fair		Good		Poor	
	Low content of organic matter	0.68			Hard to reclaim (dense layer)	0.00
	Water erosion	0.90			Slope	0.09
	Carbonate content	0.92			Carbonate content	0.92
688G:						
Braidwood-----------	Fair		Poor		Poor	
	Low content of organic matter	0.68	Slope	0.00	Slope	0.00
					Hard to reclaim (dense layer)	0.00
	Water erosion	0.90			Carbonate content	0.92
	Carbonate content	0.92				
719A:						
Symerton------------	Fair		Fair		Fair	
	Low content of organic matter	0.68	Depth to saturated zone	0.95	Depth to saturated zone	0.95
	Carbonate content	0.97	Shrink-swell	0.99		

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
719B:						
Symerton------------	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.93
	Water erosion	0.90	Depth to saturated zone	0.93		
	Carbonate content	0.97				
719C2:						
Symerton------------	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.53
	Water erosion	0.90	Depth to saturated zone	0.53		
	Carbonate content	0.97				
740A:						
Darroch-------------	Fair		Fair		Fair	
	Low content of organic matter	0.12	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Carbonate content	0.68				
741B:						
Oakville------------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00			Too acid	0.88
	Low content of organic matter	0.18				
	Droughty	0.60				
741D:						
Oakville------------	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00			Slope	0.96
	Low content of organic matter	0.12				
	Droughty	0.54				
741E:						
Oakville------------	Poor		Fair		Poor	
	Too sandy	0.00	Slope	0.98	Too sandy	0.00
	Wind erosion	0.00			Slope	0.00
	Low content of organic matter	0.12				
	Droughty	0.53				
741F:						
Oakville------------	Poor		Poor		Poor	
	Too sandy	0.00	Slope	0.00	Slope	0.00
	Wind erosion	0.00			Too sandy	0.00
	Low content of organic matter	0.12				
	Droughty	0.55				
777A:						
Adrian--------------	Poor		Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Content of organic matter	0.00			Content of organic matter	0.00

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
779B:						
Chelsea-------------	Poor		Good		Fair	
	Wind erosion	0.00			Too sandy	0.08
	Low content of organic matter	0.05				
	Too sandy	0.08				
802B:						
Orthents, loamy-----	Fair		Fair		Good	
	Low content of organic matter	0.68	Low strength	0.78		
			Shrink-swell	0.87		
	Water erosion	0.90				
802F:						
Orthents, loamy-----	Fair		Fair		Poor	
	Low content of organic matter	0.68	Slope	0.32	Slope	0.00
			Low strength	0.78		
	Water erosion	0.90	Shrink-swell	0.87		
805B:						
Orthents, clayey----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Hard to reclaim (dense layer)	0.00
	Droughty	0.50	Shrink-swell	0.12		
	Low content of organic matter	0.68	Depth to saturated zone	0.98	Too clayey	0.00
					Depth to saturated zone	0.98
	Water erosion	0.90				
830:						
Landfills-----------	Not rated		Not rated		Not rated	
864, 865:						
Pits----------------	Not rated		Not rated		Not rated	
3082A:						
Millington----------	Fair		Poor		Poor	
	Carbonate content	0.92	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Shrink-swell	0.98		
3107A:						
Sawmill-------------	Fair		Poor		Poor	
	Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00	Too clayey	0.98
			Shrink-swell	0.87		
3302A:						
Ambraw--------------	Good		Poor		Poor	
			Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.78		
			Shrink-swell	0.94		
8302A:						
Ambraw--------------	Good		Poor		Poor	
			Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.78		
			Shrink-swell	0.97		

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
8451A:						
Lawson	Good		Poor		Fair	
			Low strength	0.00	Depth to saturated zone	0.14
			Depth to saturated zone	0.14		

Table 20a.--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
49A:						
Watseka	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Thin layer	1.00	Cutbanks cave	0.50
			Depth to saturated zone	1.00		
69A:						
Milford	Not limited		Very limited		Somewhat limited	
			Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Thin layer	0.93		
88B:						
Sparta	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.07	No ground water	1.00
91A:						
Swygert	Not limited		Very limited		Very limited	
			Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	0.85		
91B2:						
Swygert	Not limited		Very limited		Very limited	
			Thin layer	1.00	No ground water	1.00
			Hard to compact	1.00		
			Depth to saturated zone	0.85		
98B:						
Ade	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.97	No ground water	1.00
102A:						
La Hogue	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Thin layer	1.00	Cutbanks cave	0.50
			Depth to saturated zone	1.00		
103A:						
Houghton	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	0.50
			Depth to saturated zone	1.00		
			Content of organic matter	1.00		
			Thin layer	0.63		
125A:						
Selma	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	0.50
			Depth to saturated zone	1.00		
			Thin layer	0.80		

Table 20a.--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
131B:						
Alvin	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.17	No ground water	1.00
146A:						
Elliott	Not limited		Very limited		Very limited	
			Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	0.93		
146B:						
Elliott	Not limited		Very limited		Very limited	
			Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	0.93		
			Piping	0.50		
146B2:						
Elliott	Not limited		Somewhat limited		Very limited	
			Depth to saturated zone	0.93	No ground water	1.00
			Thin layer	0.91		
			Piping	0.50		
149A:						
Brenton	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Thin layer	1.00	Cutbanks cave	0.50
			Depth to saturated zone	1.00		
150A:						
Onarga	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.50	No ground water	1.00
			Seepage	0.50		
150B:						
Onarga	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.97	No ground water	1.00
			Seepage	0.50		
151A:						
Ridgeville	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Thin layer	1.00	Cutbanks cave	0.50
			Depth to saturated zone	1.00		
153A:						
Pella	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Thin layer	1.00	Cutbanks cave	0.50
			Ponding	1.00		
			Depth to saturated zone	1.00		
188A:						
Beardstown	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.50
			Thin layer	0.83		
			Piping	0.50		

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
189A:						
Martinton	Not limited		Very limited		Somewhat limited	
			Thin layer	1.00	Slow refill	0.96
			Depth to saturated zone	1.00	Cutbanks cave	0.10
201A:						
Gilford	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Thin layer	1.00	Cutbanks cave	0.50
			Ponding	1.00		
			Depth to saturated zone	1.00		
210A:						
Lena	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	0.50
			Depth to saturated zone	1.00		
			Content of organic matter	1.00		
			Thin layer	0.33		
223B:						
Varna	Not limited		Very limited		Very limited	
			Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	0.03		
223B2:						
Varna	Not limited		Very limited		Very limited	
			Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	0.03		
223C2:						
Varna	Not limited		Very limited		Very limited	
			Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	0.03		
223C3:						
Varna	Not limited		Somewhat limited		Very limited	
			Thin layer	0.63	No ground water	1.00
			Depth to saturated zone	0.03		
232A:						
Ashkum	Not limited		Very limited		Somewhat limited	
			Thin layer	1.00	Slow refill	0.96
			Ponding	1.00	Cutbanks cave	0.10
			Depth to saturated zone	1.00		
235A:						
Bryce	Not limited		Very limited		Somewhat limited	
			Ponding	1.00	Slow refill	0.96
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Hard to compact	1.00		
			Thin layer	0.93		

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
240A:						
Plattville----------	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	No ground water	1.00
	Depth to bedrock	0.10				
241C3:						
Chatsworth----------	Not limited		Very limited		Very limited	
			Hard to compact	1.00	No ground water	1.00
			Thin layer	0.54		
			Depth to saturated zone	0.33		
293A:						
Andres--------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.50	Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	0.87		
			Piping	0.50		
293B:						
Andres--------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.50	Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	0.87		
			Piping	0.50		
294A:						
Symerton------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.50	Thin layer	1.00	No ground water	1.00
294B:						
Symerton------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.50	Thin layer	1.00	No ground water	1.00
			Piping	0.50		
			Depth to saturated zone	0.01		
295A:						
Mokena--------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.50	Depth to saturated zone	0.85	No ground water	1.00
			Thin layer	0.74		
			Piping	0.50		
298A:						
Beecher-------------	Not limited		Very limited		Very limited	
			Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	0.99		
			Piping	0.50		
298B:						
Beecher-------------	Not limited		Very limited		Very limited	
			Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	1.00		
			Piping	0.50		
311B:						
Ritchey-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
			Piping	0.50		

Table 20a.--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
311C:						
Ritchey-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
			Piping	0.50		
311D:						
Ritchey-------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
			Piping	0.50		
315A:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
			Piping	0.50		
315B:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
			Piping	0.50		
315C2:						
Channahon-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
			Piping	0.50		
330A:						
Peotone-------------	Not limited		Very limited		Somewhat limited	
			Ponding	1.00	Slow refill	0.96
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Hard to compact	1.00		
			Thin layer	0.76		
369A:						
Waupecan------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	No ground water	1.00
369B:						
Waupecan------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	No ground water	1.00
380A:						
Fieldon-------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Thin layer	1.00	Cutbanks cave	0.50
			Ponding	1.00		
			Depth to saturated zone	1.00		
			Seepage	0.50		
403E:						
Elizabeth-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
	Slope	0.04	Piping	0.50		
403F:						
Elizabeth-----------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Thin layer	1.00	No ground water	1.00
	Slope	0.28	Piping	0.50		

Table 20a.--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
440A:						
Jasper--------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	No ground water	1.00
			Piping	0.50		
440B:						
Jasper--------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	No ground water	1.00
440C2:						
Jasper--------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	No ground water	1.00
493A:						
Bonfield------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
			Thin layer	0.87	Content of large stones	0.01
			Seepage	0.50		
			Content of large stones	0.01		
494A:						
Kankakee------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.91	No ground water	1.00
			Seepage	0.50		
			Content of large stones	0.01		
494B:						
Kankakee------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.70	No ground water	1.00
			Seepage	0.50		
			Content of large stones	0.28		
501A:						
Morocco-------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.50
			Thin layer	0.57		
503A:						
Rockton-------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	No ground water	1.00
	Depth to bedrock	0.85	Piping	0.50		
503B:						
Rockton-------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	No ground water	1.00
	Depth to bedrock	0.85	Piping	0.50		
509A:						
Whalan--------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	No ground water	1.00
	Depth to bedrock	0.85	Piping	0.50		
509B:						
Whalan--------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	No ground water	1.00
	Depth to bedrock	0.85	Piping	0.50		

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
513A:						
Granby	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	0.50
			Depth to saturated zone	1.00		
			Seepage	0.50		
			Thin layer	0.33		
516A:						
Faxon	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	Depth to bedrock	1.00
	Depth to bedrock	0.85	Ponding	1.00	Cutbanks cave	0.10
			Depth to saturated zone	1.00		
			Piping	0.50		
523A:						
Dunham	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	Cutbanks cave	1.00
			Ponding	1.00		
			Depth to saturated zone	1.00		
526A:						
Grundelein	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	Cutbanks cave	1.00
			Depth to saturated zone	1.00		
			Seepage	0.79		
530B:						
Ozaukee	Not limited		Very limited		Very limited	
			Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	0.03		
530C2:						
Ozaukee	Not limited		Somewhat limited		Very limited	
			Thin layer	0.93	No ground water	1.00
			Depth to saturated zone	0.33		
530C3:						
Ozaukee	Not limited		Somewhat limited		Very limited	
			Thin layer	0.91	No ground water	1.00
			Depth to saturated zone	0.05		
530D2:						
Ozaukee	Not limited		Somewhat limited		Very limited	
			Thin layer	0.93	No ground water	1.00
			Depth to saturated zone	0.33		
530D3:						
Ozaukee	Not limited		Somewhat limited		Very limited	
			Thin layer	0.84	No ground water	1.00
			Depth to saturated zone	0.47		

Table 20a.--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
530E2:						
Ozaukee-------------	Somewhat limited		Very limited		Very limited	
	Slope	0.04	Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	0.33		
530F:						
Ozaukee-------------	Somewhat limited		Very limited		Very limited	
	Slope	0.28	Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	0.03		
531B:						
Markham-------------	Not limited		Very limited		Very limited	
			Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	0.12		
531C2:						
Markham-------------	Not limited		Somewhat limited		Very limited	
			Thin layer	0.97	No ground water	1.00
			Depth to saturated zone	0.25		
570B:						
Martinsville--------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.83	No ground water	1.00
			Piping	0.50		
570C2:						
Martinsville--------	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	No ground water	1.00
570D2:						
Martinsville--------	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	No ground water	1.00
570E2:						
Martinsville--------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.87	No ground water	1.00
	Slope	0.04	Piping	0.50		
570F:						
Martinsville--------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.93	No ground water	1.00
	Slope	0.28	Piping	0.50		
594A:						
Reddick-------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Thin layer	1.00	Slow refill	0.28
			Ponding	1.00	Cutbanks cave	0.10
			Depth to saturated zone	1.00		
610A:						
Tallmadge-----------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Thin layer	1.00	Cutbanks cave	0.50
	Depth to bedrock	0.10	Ponding	1.00	Depth to bedrock	0.42
			Depth to saturated zone	1.00		

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
664A:						
Rensselaer----------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	0.50
			Depth to saturated zone	1.00		
			Thin layer	0.67		
688B:						
Braidwood-----------	Somewhat limited		Very limited		Very limited	
	Seepage	0.50	Thin layer	1.00	No ground water	1.00
688D:						
Braidwood-----------	Somewhat limited		Very limited		Very limited	
	Seepage	0.50	Thin layer	1.00	No ground water	1.00
	Slope	0.02				
688G:						
Braidwood-----------	Somewhat limited		Very limited		Very limited	
	Slope	0.97	Thin layer	1.00	No ground water	1.00
	Seepage	0.50				
719A:						
Symerton------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.50	Thin layer	1.00	No ground water	1.00
			Depth to saturated zone	0.05		
719B:						
Symerton------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.50	Thin layer	1.00	No ground water	1.00
			Piping	0.50		
			Depth to saturated zone	0.07		
719C2:						
Symerton------------	Somewhat limited		Very limited		Very limited	
	Seepage	0.50	Thin layer	1.00	No ground water	1.00
			Piping	0.50		
			Depth to saturated zone	0.47		
740A:						
Darroch-------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
			Thin layer	0.97		
741B:						
Oakville------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.99	No ground water	1.00
741D:						
Oakville------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	No ground water	1.00
741E:						
Oakville------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.97	No ground water	1.00
	Slope	0.04				

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
741F:						
Oakville------------	Very limited		Very limited		Very limited	
	Seepage	1.00	Thin layer	1.00	No ground water	1.00
	Slope	0.28				
777A:						
Adrian--------------	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	0.50
			Depth to saturated zone	1.00		
			Content of organic matter	1.00		
			Thin layer	0.99		
779B:						
Chelsea-------------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.43	No ground water	1.00
802B:						
Orthents, loamy-----	Not limited		Somewhat limited		Very limited	
			Piping	0.50	No ground water	1.00
			Thin layer	0.33		
802F:						
Orthents, loamy-----	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.15	Piping	0.50	No ground water	1.00
			Thin layer	0.33		
805B:						
Orthents, clayey----	Not limited		Somewhat limited		Very limited	
			Thin layer	0.33	No ground water	1.00
			Depth to saturated zone	0.03		
830:						
Landfills-----------	Not rated		Not rated		Not rated	
864, 865:						
Pits----------------	Not rated		Not rated		Not rated	
3082A:						
Millington----------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Thin layer	1.00	Slow refill	0.28
			Ponding	1.00	Cutbanks cave	0.10
			Depth to saturated zone	1.00		
			Piping	0.50		
3107A:						
Sawmill-------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Thin layer	1.00	Slow refill	0.28
			Ponding	1.00	Cutbanks cave	0.10
			Depth to saturated zone	1.00		

Table 20a.--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
3302A:						
Ambraw	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	0.50
			Depth to saturated zone	1.00		
			Thin layer	0.89		
			Piping	0.50		
8302A:						
Ambraw	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Thin layer	1.00	Cutbanks cave	0.50
			Ponding	1.00		
			Depth to saturated zone	1.00		
			Piping	0.50		
8451A:						
Lawson	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
					Cutbanks cave	0.10
			Thin layer	0.43		

Table 20b.--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		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49A:						
Watseka	Very limited		Very limited		Very limited	
	Droughty	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
	Depth to saturated zone	1.00	Too sandy	1.00		
69A:						
Milford	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.22	Ponding	1.00	Frost action	1.00
			Restricted permeability	0.22	Restricted permeability	0.22
88B:						
Sparta	Very limited		Very limited		Drainage not needed	
	Droughty	1.00	Too sandy	1.00		
91A:						
Swygert	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91		
91B2:						
Swygert	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91		
98B:						
Ade	Not limited		Very limited		Drainage not needed	
			Too sandy	1.00		
102A:						
La Hogue	Very limited		Very limited		Not limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
103A:						
Houghton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
			Ponding	1.00	Frost action	1.00
					Subsidence	1.00
125A:						
Selma	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
			Ponding	1.00	Frost action	1.00
131B:						
Alvin	Not limited		Very limited		Drainage not needed	
			Too sandy	1.00		

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value
146A:						
Elliott	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91		
146B:						
Elliott	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91		
146B2:						
Elliott	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91		
149A:						
Brenton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
150A:						
Onarga	Not limited		Very limited		Drainage not needed	
			Too sandy	1.00		
150B:						
Onarga	Not limited		Very limited		Very limited	
			Too sandy	1.00	Cutbanks cave	1.00
					Depth to saturated zone	1.00
					Slope	0.01
151A:						
Ridgeville	Very limited		Very limited		Not limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
153A:						
Pella	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
			Ponding	1.00	Frost action	1.00
188A:						
Beardstown	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
189A:						
Martinton	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
201A:						
Gilford------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
					Frost action	1.00
			Ponding	1.00	Cutbanks cave	1.00
			Too sandy	1.00		
210A:						
Lena----------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
					Frost action	1.00
			Ponding	1.00	Subsidence	1.00
223B:						
Varna---------------	Somewhat limited		Very limited		Somewhat limited	
	Restricted permeability	0.91	Depth to saturated zone	1.00	Restricted permeability	0.91
	Depth to saturated zone	0.24	Restricted permeability	0.91		
223B2:						
Varna---------------	Somewhat limited		Very limited		Somewhat limited	
	Restricted permeability	0.91	Depth to saturated zone	1.00	Restricted permeability	0.91
	Depth to saturated zone	0.24	Restricted permeability	0.91		
223C2:						
Varna---------------	Somewhat limited		Very limited		Somewhat limited	
	Restricted permeability	0.91	Depth to saturated zone	1.00	Restricted permeability	0.91
	Depth to saturated zone	0.24	Restricted permeability	0.91	Slope	0.16
223C3:						
Varna---------------	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Depth to saturated zone	1.00	Slope	0.16
	Depth to saturated zone	0.24	Restricted permeability	0.91		
232A:						
Ashkum--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
					Frost action	1.00
	Restricted permeability	0.22	Ponding	1.00	Restricted permeability	0.22
			Restricted permeability	0.22		
235A:						
Bryce---------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
					Frost action	1.00
	Restricted permeability	0.91	Ponding	1.00	Restricted permeability	0.91
			Restricted permeability	0.91		
240A:						
Plattville----------	Somewhat limited		Not limited		Drainage not needed	
	Depth to bedrock	0.42				

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
241C3:						
Chatsworth----------	Very limited		Very limited		Somewhat limited	
	Droughty	1.00	Depth to saturated zone	1.00	Restricted permeability	0.99
	Restricted permeability	0.99	Restricted permeability	0.99	Slope	0.16
	Depth to saturated zone	0.76				
293A:						
Andres--------------	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		
293B:						
Andres--------------	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22	Slope	0.01
294A:						
Symerton------------	Somewhat limited		Not limited		Very limited	
	Depth to saturated zone	0.01			Depth to saturated zone	1.00
294B:						
Symerton------------	Somewhat limited		Very limited		Somewhat limited	
	Restricted permeability	0.91	Depth to saturated zone	1.00	Restricted permeability	0.91
	Depth to saturated zone	0.14	Restricted permeability	0.91	Slope	0.01
295A:						
Mokena--------------	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91		
298A:						
Beecher-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.91	Restricted permeability	0.91	Restricted permeability	0.91
298B:						
Beecher-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.91	Restricted permeability	0.91	Restricted permeability	0.91
311B:						
Ritchey-------------	Very limited		Very limited		Drainage not needed	
	Depth to bedrock	1.00	Depth to bedrock	1.00		
	Droughty	1.00				

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
311C:						
Ritchey-------------	Very limited		Very limited		Drainage not needed	
	Depth to bedrock	1.00	Depth to bedrock	1.00		
	Droughty	1.00				
311D:						
Ritchey-------------	Very limited		Very limited		Drainage not needed	
	Depth to bedrock	1.00	Depth to bedrock	1.00		
	Droughty	1.00	Slope	1.00		
	Slope	1.00				
315A:						
Channahon-----------	Very limited		Very limited		Drainage not needed	
	Depth to bedrock	1.00	Depth to bedrock	1.00		
	Droughty	1.00				
315B:						
Channahon-----------	Very limited		Very limited		Drainage not needed	
	Depth to bedrock	1.00	Depth to bedrock	1.00		
	Droughty	1.00				
315C2:						
Channahon-----------	Very limited		Very limited		Drainage not needed	
	Depth to bedrock	1.00	Depth to bedrock	1.00		
	Droughty	1.00	Restricted permeability	0.40		
	Restricted permeability	0.40				
330A:						
Peotone-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.22	Ponding	1.00	Frost action	1.00
			Restricted permeability	0.22	Restricted permeability	0.22
369A:						
Waupecan------------	Not limited		Not limited		Drainage not needed	
369B:						
Waupecan------------	Not limited		Not limited		Drainage not needed	
380A:						
Fieldon-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
			Ponding	1.00	Frost action	1.00
			Too sandy	1.00	Cutbanks cave	1.00
403E:						
Elizabeth-----------	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Slope	1.00		
	Depth to bedrock	1.00	Depth to bedrock	1.00		
	Droughty	1.00	Content of large stones	0.03		
	Content of large stones	0.03				

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value
403F:						
Elizabeth-----------	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Slope	1.00		
	Depth to bedrock	1.00	Depth to bedrock	1.00		
	Droughty	1.00	Content of large stones	0.83		
	Content of large stones	0.83				
440A:						
Jasper--------------	Not limited		Not limited		Drainage not needed	
440B:						
Jasper--------------	Not limited		Not limited		Drainage not needed	
440C2:						
Jasper--------------	Not limited		Not limited		Drainage not needed	
493A:						
Bonfield------------	Very limited		Very limited		Very limited	
	Content of large stones	1.00	Depth to saturated zone	1.00	Content of large stones	1.00
	Depth to saturated zone	1.00	Content of large stones	1.00		
494A:						
Kankakee------------	Very limited		Very limited		Drainage not needed	
	Content of large stones	1.00	Content of large stones	1.00		
494B:						
Kankakee------------	Very limited		Very limited		Drainage not needed	
	Content of large stones	1.00	Content of large stones	1.00		
501A:						
Morocco-------------	Very limited		Very limited		Very limited	
	Droughty	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
	Depth to saturated zone	1.00	Too sandy	1.00		
503A:						
Rockton-------------	Very limited		Somewhat limited		Drainage not needed	
	Depth to bedrock	1.00	Depth to bedrock	0.42		
	Restricted permeability	0.40	Restricted permeability	0.40		
503B:						
Rockton-------------	Very limited		Somewhat limited		Drainage not needed	
	Depth to bedrock	1.00	Depth to bedrock	0.42		
	Restricted permeability	0.40	Restricted permeability	0.40		
509A:						
Whalan--------------	Very limited		Somewhat limited		Drainage not needed	
	Depth to bedrock	1.00	Depth to bedrock	0.42		
	Restricted permeability	0.40	Restricted permeability	0.40		

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
509B:						
Whalan--------------	Very limited		Somewhat limited		Drainage not needed	
	Depth to bedrock	1.00	Depth to bedrock	0.42		
	Restricted permeability	0.40	Restricted permeability	0.40		
513A:						
Granby--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Droughty	1.00	Ponding	1.00	Cutbanks cave	1.00
			Too sandy	1.00		
516A:						
Faxon---------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Frost action	1.00
			Depth to bedrock	0.42	Depth to bedrock	0.11
523A:						
Dunham--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
			Ponding	1.00	Frost action	1.00
526A:						
Grundelein----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
			Too sandy	1.00	Cutbanks cave	1.00
530B:						
Ozaukee-------------	Somewhat limited		Very limited		Somewhat limited	
	Restricted permeability	0.91	Depth to saturated zone	1.00	Restricted permeability	0.91
	Depth to saturated zone	0.24	Restricted permeability	0.91		
530C2:						
Ozaukee-------------	Somewhat limited		Very limited		Somewhat limited	
	Restricted permeability	0.91	Depth to saturated zone	1.00	Restricted permeability	0.91
	Depth to saturated zone	0.76	Restricted permeability	0.91	Slope	0.16
530C3:						
Ozaukee-------------	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Depth to saturated zone	1.00	Slope	0.16
	Depth to saturated zone	0.32	Restricted permeability	0.91		
530D2:						
Ozaukee-------------	Very limited		Very limited		Somewhat limited	
	Slope	1.00	Slope	1.00	Slope	0.96
	Restricted permeability	0.91	Depth to saturated zone	1.00	Restricted permeability	0.91
	Depth to saturated zone	0.76	Restricted permeability	0.91		

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value
530D3:						
Ozaukee-------------	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
	Slope	1.00	Slope	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Depth to saturated zone	1.00		
	Depth to saturated zone	0.86	Restricted permeability	0.91		
530E2:						
Ozaukee-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.91	Depth to saturated zone	1.00	Restricted permeability	0.91
	Depth to saturated zone	0.76	Restricted permeability	0.91		
530F:						
Ozaukee-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.91	Depth to saturated zone	1.00	Restricted permeability	0.91
	Depth to saturated zone	0.24	Restricted permeability	0.91		
531B:						
Markham-------------	Somewhat limited		Very limited		Somewhat limited	
	Restricted permeability	0.91	Depth to saturated zone	1.00	Restricted permeability	0.91
	Depth to saturated zone	0.47	Restricted permeability	0.91		
531C2:						
Markham-------------	Somewhat limited		Very limited		Somewhat limited	
	Restricted permeability	0.91	Depth to saturated zone	1.00	Restricted permeability	0.91
	Depth to saturated zone	0.68	Restricted permeability	0.91	Slope	0.16
570B:						
Martinsville--------	Not limited		Not limited		Drainage not needed	
570C2:						
Martinsville--------	Not limited		Not limited		Drainage not needed	
570D2:						
Martinsville--------	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Slope	1.00		
570E2:						
Martinsville--------	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Slope	1.00		
570F:						
Martinsville--------	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Slope	1.00		

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
594A:						
Reddick-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.22	Ponding	1.00	Frost action	1.00
			Restricted permeability	0.22	Restricted permeability	0.22
610A:						
Tallmadge-----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Depth to bedrock	0.42	Ponding	1.00	Frost action	1.00
	Content of large stones	0.01	Content of large stones	0.01		
664A:						
Rensselaer----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
			Ponding	1.00	Frost action	1.00
			Too sandy	1.00		
688B:						
Braidwood-----------	Not limited		Not limited		Drainage not needed	
688D:						
Braidwood-----------	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Slope	1.00		
688G:						
Braidwood-----------	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Slope	1.00		
	Restricted permeability	0.22	Restricted permeability	0.22		
	Content of large stones	0.01	Content of large stones	0.01		
719A:						
Symerton------------	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.32	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		
719B:						
Symerton------------	Somewhat limited		Very limited		Somewhat limited	
	Restricted permeability	0.91	Depth to saturated zone	1.00	Restricted permeability	0.91
	Depth to saturated zone	0.38	Restricted permeability	0.91	Slope	0.01
719C2:						
Symerton------------	Somewhat limited		Very limited		Somewhat limited	
	Restricted permeability	0.91	Depth to saturated zone	1.00	Restricted permeability	0.91
	Depth to saturated zone	0.86	Restricted permeability	0.91	Slope	0.74

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways: Rating class and limiting features	Value	Constructing terraces and diversions: Rating class and limiting features	Value	Drainage: Rating class and limiting features	Value
740A:						
Darroch	Very limited		Very limited		Not limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
741B:						
Oakville	Very limited		Very limited		Drainage not needed	
	Droughty	1.00	Too sandy	1.00		
741D:						
Oakville	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Too sandy	1.00		
	Droughty	1.00	Slope	1.00		
741E:						
Oakville	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Slope	1.00		
	Droughty	1.00	Too sandy	1.00		
741F:						
Oakville	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Slope	1.00		
	Droughty	1.00	Too sandy	1.00		
777A:						
Adrian	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
					Frost action	1.00
			Ponding	1.00	Subsidence	1.00
779B:						
Chelsea	Not limited		Very limited		Drainage not needed	
			Too sandy	1.00		
802B:						
Orthents, loamy	Very limited		Very limited		Drainage not needed	
	Water erosion	1.00	Water erosion	1.00		
	Restricted permeability	0.22	Restricted permeability	0.22		
802F:						
Orthents, loamy	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Water erosion	1.00		
	Water erosion	1.00	Slope	1.00		
	Restricted permeability	0.22	Restricted permeability	0.22		
805B:						
Orthents, clayey	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Restricted permeability	0.99
	Droughty	1.00	Depth to saturated zone	1.00		
	Restricted permeability	0.99	Restricted permeability	0.99		
	Depth to saturated zone	0.24				
830:						
Landfills	Not rated		Not rated		Not rated	
864, 865:						
Pits	Not rated		Not rated		Not rated	

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3082A:						
Millington----------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
					Frost action	1.00
			Ponding	1.00	Flooding	1.00
3107A:						
Sawmill-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
					Frost action	1.00
			Ponding	1.00	Flooding	1.00
3302A:						
Ambraw--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
					Frost action	1.00
			Ponding	1.00	Flooding	1.00
8302A:						
Ambraw--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
					Frost action	1.00
			Ponding	1.00	Flooding	1.00
8451A:						
Lawson--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
					Flooding	1.00

Table 20c.--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	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
49A:						
Watseka	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Wind erosion	1.00	Depth to saturated zone	1.00
	Available water capacity	0.08	Depth to saturated zone	1.00		
			Available water capacity	1.00		
69A:						
Milford	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
	Restricted permeability	0.96				
88B:						
Sparta	Somewhat limited		Very limited		Not limited	
	Slope	0.03	Wind erosion	1.00		
			Available water capacity	1.00		
91A:						
Swygert	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Available water capacity	0.19		
91B2:						
Swygert	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Available water capacity	0.40		
	Slope	0.01				
98B:						
Ade	Somewhat limited		Very limited		Not limited	
	Slope	0.03	Wind erosion	1.00		
			Available water capacity	0.96		
102A:						
La Hogue	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
103A:						
Houghton	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
	Restricted permeability	0.96	Wind erosion	1.00		

Table 20c.--Water Management

Map symbol and soil name	Irrigation (all application methods) Rating class and limiting features	Value	Sprinkler irrigation Rating class and limiting features	Value	Drip or trickle irrigation Rating class and limiting features	Value
125A:						
Selma	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
131B:						
Alvin	Somewhat limited		Somewhat limited		Not limited	
	Slope	0.03	Available water capacity	0.05		
146A:						
Elliott	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00				
146B:						
Elliott	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00				
	Slope	0.01				
146B2:						
Elliott	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Available water capacity	0.29		
	Slope	0.01				
149A:						
Brenton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
150A:						
Onarga	Not limited		Not limited		Not limited	
150B:						
Onarga	Somewhat limited		Somewhat limited		Not limited	
	Slope	0.03	Available water capacity	0.08		
151A:						
Ridgeville	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
153A:						
Pella	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
188A:						
Beardstown	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 20c.--Water Management

Map symbol and soil name	Irrigation (all application methods) Rating class and limiting features	Value	Sprinkler irrigation Rating class and limiting features	Value	Drip or trickle irrigation Rating class and limiting features	Value
189A:						
Martinton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.96				
201A:						
Gilford	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
210A:						
Lena	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
			Wind erosion	1.00		
223B:						
Varna	Very limited		Not limited		Not limited	
	Restricted permeability	1.00				
	Depth to saturated zone	0.68				
	Slope	0.01				
223B2:						
Varna	Very limited		Not limited		Not limited	
	Restricted permeability	1.00				
	Depth to saturated zone	0.68				
	Slope	0.01				
223C2:						
Varna	Very limited		Not limited		Not limited	
	Restricted permeability	1.00				
	Depth to saturated zone	0.68				
	Slope	0.33				
223C3:						
Varna	Very limited		Very limited		Not limited	
	Restricted permeability	1.00	Water erosion	1.00		
	Depth to saturated zone	0.68	Available water capacity	0.76		
	Slope	0.33				
232A:						
Ashkum	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
	Restricted permeability	0.96				

Table 20c.--Water Management

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
235A:						
Bryce	Very limited		Very limited		Very limited	
	Restricted permeability	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	Available water capacity	0.60		
240A:						
Plattville	Not limited		Not limited		Not limited	
241C3:						
Chatsworth	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Available water capacity	1.00	Available water capacity	1.00		
	Depth to saturated zone	0.98				
	Slope	0.33				
293A:						
Andres	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.96				
293B:						
Andres	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.96				
	Slope	0.03				
294A:						
Symerton	Somewhat limited		Not limited		Not limited	
	Restricted permeability	0.96				
	Depth to saturated zone	0.14				
294B:						
Symerton	Somewhat limited		Not limited		Not limited	
	Restricted permeability	0.96				
	Depth to saturated zone	0.53				
	Slope	0.03				
295A:						
Mokena	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00				

Table 20c.--Water Management

Map symbol and soil name	Irrigation (all application methods): Rating class and limiting features	Value	Sprinkler irrigation: Rating class and limiting features	Value	Drip or trickle irrigation: Rating class and limiting features	Value
298A:						
Beecher	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00				
298B:						
Beecher	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00				
	Slope	0.01				
311B:						
Ritchey	Very limited		Very limited		Very limited	
	Available water capacity	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Available water capacity	1.00		
	Slope	0.01				
311C:						
Ritchey	Very limited		Very limited		Very limited	
	Available water capacity	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Available water capacity	1.00		
	Slope	0.33				
311D:						
Ritchey	Very limited		Very limited		Very limited	
	Available water capacity	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Available water capacity	1.00		
	Slope	1.00	Slope	0.22		
315A:						
Channahon	Very limited		Very limited		Very limited	
	Available water capacity	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Available water capacity	1.00		
315B:						
Channahon	Very limited		Very limited		Very limited	
	Available water capacity	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Available water capacity	1.00		
	Slope	0.01				
315C2:						
Channahon	Very limited		Very limited		Very limited	
	Available water capacity	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Available water capacity	1.00		
	Slope	0.33				

Table 20c.--Water Management

Map symbol and soil name	Irrigation (all application methods) Rating class and limiting features	Value	Sprinkler irrigation Rating class and limiting features	Value	Drip or trickle irrigation Rating class and limiting features	Value
330A:						
Peotone-------------	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
	Restricted permeability	0.96				
369A:						
Waupecan------------	Not limited		Not limited		Not limited	
369B:						
Waupecan------------	Somewhat limited		Not limited		Not limited	
	Slope	0.01				
380A:						
Fieldon-------------	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
403E:						
Elizabeth-----------	Very limited		Very limited		Very limited	
	Available water capacity	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Available water capacity	1.00		
	Depth to bedrock	1.00	Slope	1.00		
403F:						
Elizabeth-----------	Very limited		Very limited		Very limited	
	Available water capacity	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Available water capacity	1.00		
	Depth to bedrock	1.00	Slope	1.00		
440A:						
Jasper--------------	Not limited		Not limited		Not limited	
440B:						
Jasper--------------	Somewhat limited		Not limited		Not limited	
	Slope	0.03				
440C2:						
Jasper--------------	Somewhat limited		Somewhat limited		Not limited	
	Slope	0.97	Slope	0.06		
493A:						
Bonfield------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
			Rock fragments	0.50		
			Available water capacity	0.14		
494A:						
Kankakee------------	Not limited		Somewhat limited		Not limited	
			Rock fragments	0.50		
			Available water capacity	0.08		

Table 20c.--Water Management

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
494B:						
Kankakee	Somewhat limited		Somewhat limited		Not limited	
	Slope	0.01	Rock fragments	0.50		
			Available water capacity	0.40		
501A:						
Morocco	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Wind erosion	1.00	Depth to saturated zone	1.00
			Depth to saturated zone	1.00		
			Available water capacity	1.00		
503A:						
Rockton	Somewhat limited		Very limited		Not limited	
	Available water capacity	0.50	Depth to bedrock	1.00		
	Depth to bedrock	0.42				
503B:						
Rockton	Somewhat limited		Very limited		Not limited	
	Available water capacity	0.71	Depth to bedrock	1.00		
	Depth to bedrock	0.42	Available water capacity	0.11		
	Slope	0.01				
509A:						
Whalan	Very limited		Very limited		Not limited	
	Restricted permeability	1.00	Depth to bedrock	1.00		
	Available water capacity	0.82	Available water capacity	0.30		
	Depth to bedrock	0.42				
509B:						
Whalan	Somewhat limited		Very limited		Not limited	
	Available water capacity	0.83	Depth to bedrock	1.00		
	Depth to bedrock	0.42	Available water capacity	0.24		
	Slope	0.01				
513A:						
Granby	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
			Available water capacity	1.00		
516A:						
Faxon	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
	Available water capacity	0.80	Depth to bedrock	1.00		
	Depth to bedrock	0.42	Available water capacity	0.59		

Table 20c.--Water Management

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
523A:						
Dunham	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
526A:						
Grundelein	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
530B:						
Ozaukee	Very limited		Not limited		Not limited	
	Restricted permeability	1.00				
	Depth to saturated zone	0.68				
	Slope	0.01				
530C2:						
Ozaukee	Very limited		Somewhat limited		Not limited	
	Restricted permeability	1.00	Available water capacity	0.17		
	Depth to saturated zone	0.98				
	Slope	0.33				
530C3:						
Ozaukee	Very limited		Very limited		Not limited	
	Restricted permeability	1.00	Water erosion	1.00		
			Available water capacity	0.39		
	Depth to saturated zone	0.75				
	Slope	0.33				
530D2:						
Ozaukee	Very limited		Somewhat limited		Not limited	
	Restricted permeability	1.00	Slope	0.22		
			Available water capacity	0.17		
	Slope	1.00				
	Depth to saturated zone	0.98				
530D3:						
Ozaukee	Very limited		Very limited		Not limited	
	Restricted permeability	1.00	Water erosion	1.00		
			Available water capacity	0.46		
	Slope	1.00				
	Depth to saturated zone	1.00	Slope	0.22		
530E2:						
Ozaukee	Very limited		Very limited		Not limited	
	Restricted permeability	1.00	Slope	1.00		
			Available water capacity	0.05		
	Slope	1.00				
	Depth to saturated zone	0.98				

Table 20c.--Water Management

Map symbol and soil name	Irrigation (all application methods) Rating class and limiting features	Value	Sprinkler irrigation Rating class and limiting features	Value	Drip or trickle irrigation Rating class and limiting features	Value
530F:						
Ozaukee-------------	Very limited		Very limited		Not limited	
	Restricted permeability	1.00	Slope	1.00		
	Slope	1.00				
	Depth to saturated zone	0.68				
531B:						
Markham-------------	Very limited		Not limited		Not limited	
	Restricted permeability	1.00				
	Depth to saturated zone	0.86				
	Slope	0.01				
531C2:						
Markham-------------	Very limited		Not limited		Not limited	
	Restricted permeability	1.00				
	Depth to saturated zone	0.95				
	Slope	0.33				
570B:						
Martinsville--------	Somewhat limited		Not limited		Not limited	
	Slope	0.01				
570C2:						
Martinsville--------	Somewhat limited		Not limited		Not limited	
	Slope	0.33				
570D2:						
Martinsville--------	Very limited		Somewhat limited		Not limited	
	Slope	1.00	Slope	0.22		
570E2:						
Martinsville--------	Very limited		Very limited		Not limited	
	Slope	1.00	Slope	1.00		
570F:						
Martinsville--------	Very limited		Very limited		Not limited	
	Slope	1.00	Slope	1.00		
594A:						
Reddick-------------	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
	Restricted permeability	0.96				
610A:						
Tallmadge-----------	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

Table 20c.--Water Management

Map symbol and soil name	Irrigation (all application methods) Rating class and limiting features	Value	Sprinkler irrigation Rating class and limiting features	Value	Drip or trickle irrigation Rating class and limiting features	Value
664A:						
Rensselaer----------	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
688B:						
Braidwood-----------	Somewhat limited		Not limited		Not limited	
	Slope	0.09				
688D:						
Braidwood-----------	Very limited		Somewhat limited		Not limited	
	Slope	1.00	Slope	0.94		
688G:						
Braidwood-----------	Very limited		Very limited		Not limited	
	Slope	1.00	Slope	1.00		
			Available water capacity	0.08		
719A:						
Symerton------------	Somewhat limited		Somewhat limited		Not limited	
	Restricted permeability	0.96	Available water capacity	0.18		
	Depth to saturated zone	0.75				
719B:						
Symerton------------	Somewhat limited		Somewhat limited		Not limited	
	Restricted permeability	0.96	Available water capacity	0.10		
	Depth to saturated zone	0.80				
	Slope	0.03				
719C2:						
Symerton------------	Somewhat limited		Somewhat limited		Not limited	
	Depth to saturated zone	1.00	Available water capacity	0.40		
	Slope	0.97	Slope	0.06		
	Restricted permeability	0.96				
740A:						
Darroch-------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
741B:						
Oakville------------	Very limited		Very limited		Not limited	
	Available water capacity	0.40	Wind erosion	1.00		
	Slope	0.03	Available water capacity	1.00		
741D:						
Oakville------------	Very limited		Very limited		Not limited	
	Slope	1.00	Wind erosion	1.00		
	Available water capacity	0.46	Available water capacity	1.00		
			Slope	0.22		

Table 20c.--Water Management

Map symbol and soil name	Irrigation (all application methods): Rating class and limiting features	Value	Sprinkler irrigation: Rating class and limiting features	Value	Drip or trickle irrigation: Rating class and limiting features	Value
741E:						
Oakville	Very limited		Very limited		Not limited	
	Slope	1.00	Wind erosion	1.00		
	Available water capacity	0.47	Available water capacity	1.00		
			Slope	1.00		
741F:						
Oakville	Very limited		Very limited		Not limited	
	Slope	1.00	Wind erosion	1.00		
	Available water capacity	0.45	Slope	1.00		
			Available water capacity	1.00		
777A:						
Adrian	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
	Restricted permeability	0.96	Wind erosion	1.00		
779B:						
Chelsea	Somewhat limited		Very limited		Not limited	
	Too acid	0.92	Wind erosion	1.00		
	Slope	0.03	Available water capacity	0.99		
802B:						
Orthents, loamy	Somewhat limited		Very limited		Not limited	
	Restricted permeability	0.96	Water erosion	1.00		
	Slope	0.03				
802F:						
Orthents, loamy	Very limited		Very limited		Not limited	
	Slope	1.00	Water erosion	1.00		
	Restricted permeability	0.96	Slope	1.00		
805B:						
Orthents, clayey	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Depth to saturated zone	0.68	Available water capacity	1.00		
	Available water capacity	0.50	Water erosion	1.00		
	Slope	0.01				
830:						
Landfills	Not rated		Not rated		Not rated	
864:						
Pits, quarry	Not rated		Not rated		Not rated	
865:						
Pits, gravel	Not rated		Not rated		Not rated	

Table 20c.--Water Management

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3082A:						
Millington----------	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
	Flooding	0.80	Flooding	1.00	Flooding	1.00
3107A:						
Sawmill-------------	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
	Flooding	0.80	Flooding	1.00	Flooding	1.00
3302A:						
Ambraw--------------	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
	Flooding	0.80	Flooding	1.00	Flooding	1.00
8302A:						
Ambraw--------------	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
	Floodiing	0.60				
8451A:						
Lawson--------------	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	0.60				

Table 21.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
49A:												
Watseka---------	0-10	Loamy fine sand	SC-SM, SM	A-2-4	0	0	100	95-100	80-100	10-30	10-25	NP-5
	10-32	Fine sand, sand, loamy fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	90-100	60-80	3-25	5-20	NP-4
	32-60	Fine sand, sand, loamy fine sand	SP-SM, SP, SM	A-2-4, A-3	0	0	90-100	90-100	60-80	3-25	0-20	NP-4
69A:												
Milford---------	0-18	Silty clay loam	CH, CL, MH	A-7-6, A-7-5	0	0	100	95-100	90-100	80-95	40-55	20-30
	18-50	Silty clay, silty clay loam, clay loam	CH, CL, MH	A-7-6, A-7-5	0	0	100	95-100	90-100	75-100	40-60	20-40
	50-60	Stratified sandy loam to silty clay loam	CL, SC, ML	A-6, A-7-6, A-7-5	0	0	95-100	95-100	90-100	45-100	25-50	10-30
88B:												
Sparta----------	0-13	Loamy fine sand	SM	A-4, A-2-4	0	0	85-100	85-100	50-95	10-50	0-14	NP
	13-71	Loamy fine sand, loamy sand, fine sand	SM, SP-SM	A-2-4, A-3, A-4	0	0	85-100	85-100	50-95	5-50	0-14	NP
	71-80	Stratified sand to loamy fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	85-100	85-100	50-95	4-50	0-14	NP-4
91A:												
Swygert---------	0-12	Silty clay loam	CL, ML	A-7-6, A-7-5, A-6	0	0	100	98-100	95-100	85-98	35-45	15-21
	12-26	Silty clay, clay	CH, CL, MH	A-7-6, A-7-5	0	0	100	98-100	95-100	85-98	45-60	22-35
	26-51	Silty clay, clay	CL, CH, MH	A-7-6, A-7-5	0	0-2	97-100	90-100	85-100	75-95	45-55	20-32
	51-60	Silty clay, clay, silty clay loam	CL, CH, MH	A-7-6, A-7-5	0	0-3	95-100	85-100	80-100	70-95	45-60	20-32

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
91B2:												
Swygert---------	0-7	Silty clay loam	CL, ML	A-7-6, A-7-5, A-6	0	0	100	98-100	95-100	85-98	39-46	18-25
	7-30	Silty clay, clay	CH, CL, MH	A-7-6, A-7-5	0	0	100	98-100	95-100	85-98	45-60	22-35
	30-48	Silty clay, clay	CL, CH, MH	A-7-6, A-7-5	0	0-2	97-100	90-100	85-100	75-95	45-55	20-32
	48-60	Silty clay, clay, silty clay loam	CL, CH, MH	A-7-6, A-7-5	0	0-3	95-100	85-100	80-100	70-95	45-60	20-32
98B:												
Ade-------------	0-22	Loamy fine sand	SM, SP-SM	A-2-4	0	0	100	100	65-90	10-35	0-14	NP
	22-29	Fine sand, loamy fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	65-90	3-20	0-14	NP
	29-60	Stratified sand to fine sandy loam	SP-SM, SP, SM	A-2-4, A-3	0	0	100	100	65-90	2-35	0-14	NP
	60-80	Fine sand	SP-SM, SP, SM	A-2-4, A-3	0	0	100	100	60-85	2-15	0-10	NP
102A:												
La Hogue--------	0-16	Loam	CL, CL-ML, ML	A-4	0	0	100	95-100	80-100	50-80	20-35	3-10
	16-32	Sandy clay loam, loam, clay loam	CL, SC, SM, ML	A-4, A-6	0	0	100	95-100	80-100	40-85	25-40	8-20
	32-48	Sandy loam, loamy sand, loam	CL, ML, SC, SM, SC-SM	A-2-4, A-4, A-6, A-2-6	0	0	100	90-100	75-90	20-70	15-30	2-15
	48-60	Stratified loamy sand to silt loam	CL-ML, ML, SC, SM, SC-SM	A-2-4, A-4	0	0	95-100	80-100	60-90	15-70	18-25	NP-10
103A:												
Houghton--------	0-19	Muck	PT	A-8	0	0	---	---	---	---	0-0	NP
	19-60	Muck	PT	A-8	0	0	---	---	---	---	0-0	NP

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
125A:												
Selma-----------	0-6	Loam	CL, ML	A-4, A-6	0	0	100	95-100	80-100	55-85	25-35	7-17
	6-13	Clay loam	ML, CL	A-6, A-4	0	0	100	95-100	80-100	55-85	25-40	8-20
	13-44	Loam, silty clay loam, sandy loam	SC, CL	A-6, A-4	0	0	100	85-100	80-95	38-85	24-36	11-19
	44-80	Stratified sand to silt loam	SC, SC-SM, SM, CL, CL-ML	A-4, A-2-4, A-6, A-2-6	0	0	90-100	80-100	60-90	10-70	15-35	5-20
131B:												
Alvin-----------	0-8	Fine sandy loam	SM, SC-SM	A-4, A-2-4	0	0	100	100	80-95	30-45	15-25	NP-4
	8-11	Fine sandy loam, sandy loam, loamy fine sand	SM, SC-SM	A-4, A-2-4	0	0	100	100	80-95	30-45	15-25	NP-4
	11-25	Fine sandy loam, sandy loam, loam	SC, SM, CL	A-4, A-2-4, A-6	0	0	100	95-100	70-100	30-55	15-40	NP-15
	25-80	Very fine sand, fine sandy loam, loamy fine sand	SM, SP, SC-SM	A-1-b, A-2-4	0	0	95-100	95-100	45-95	4-35	15-20	NP-4
146A:												
Elliott---------	0-6	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-100	29-37	7-15
	6-11	Silty clay loam	CL	A-7-5, A-7-6	0	0	100	100	95-100	85-100	40-46	15-19
	11-16	Silty clay	CL, CH	A-7-5, A-7-6	0	0	100	95-100	90-100	85-100	42-56	18-30
	16-41	Silty clay loam	CL	A-6, A-7-6	0	0-1	95-100	85-98	80-95	70-95	33-42	12-20
	41-60	Silty clay loam	CL	A-6	0	0-3	95-100	85-98	80-95	70-95	31-37	10-17
146B:												
Elliott---------	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	29-37	7-15
	9-13	Silty clay loam	CL	A-7-5, A-7-6	0	0	100	100	95-100	85-100	40-46	15-19
	13-17	Silty clay loam, silty clay	CH, CL	A-7-5, A-7-6	0	0	100	95-100	90-100	85-100	40-52	15-28
	17-35	Silty clay loam	CL	A-6, A-7-6	0	0-1	95-100	85-98	80-95	70-95	33-42	12-20
	35-60	Silty clay loam	CL	A-6	0	0-3	95-100	85-98	80-95	70-95	31-37	10-17

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
146B2:												
Elliott---------	0-8	Silty clay loam	CL, ML	A-7-5, A-7-6	0	0	100	100	95-100	85-100	40-46	15-19
	8-14	Silty clay loam, silty clay	MH, CH, CL	A-7-5, A-7-6	0	0	100	95-100	90-100	85-100	40-52	15-28
	14-27	Silty clay loam	CL, ML	A-6, A-7-6	0	0-1	95-100	85-98	80-95	70-95	33-42	12-20
	27-60	Silty clay loam	CL, ML	A-6	0	0-3	95-100	85-98	80-95	70-95	31-37	10-17
149A:												
Brenton---------	0-12	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	85-100	30-40	8-15
	12-28	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	85-100	35-50	10-25
	28-44	Clay loam, silt loam, sandy loam	CL, SC, ML, SM	A-6, A-7-6	0	0	100	95-100	90-100	40-85	30-45	10-20
	44-60	Stratified loamy sand to clay loam	CL, SC, SC-SM, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	95-100	80-100	80-100	15-85	20-35	5-20
150A:												
Onarga----------	0-17	Fine sandy loam	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6	0	0	100	100	75-95	25-50	15-28	2-12
	17-35	Sandy loam, fine sandy loam, loam	SC, SC-SM, CL, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	98-100	95-100	75-95	30-60	19-32	5-14
	35-80	Stratified sand to sandy loam	SM, SC-SM, SP-SM	A-2-4, A-4	0	0	95-100	90-100	65-95	5-40	10-20	NP-6
150B:												
Onarga----------	0-13	Fine sandy loam	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6	0	0	100	100	75-95	25-50	15-28	2-12
	13-29	Loam, sandy loam, fine sandy loam	SC, SC-SM, CL, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	98-100	95-100	75-95	30-60	19-32	5-14
	29-60	Stratified sand to sandy loam	SM, SC-SM, SP-SM	A-2-4, A-4	0	0	95-100	90-100	65-95	5-40	10-20	NP-6

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
151A:												
Ridgeville------	0-16	Fine sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	100	100	75-100	20-50	15-25	2-10
	16-40	Fine sandy loam, loam, sandy clay loam	SC, SC-SM, CL, CL-ML	A-4, A-6	0	0	98-100	95-100	75-95	35-60	20-35	5-15
	40-60	Loamy sand, sandy loam, fine sand	SC, SC-SM, SM, SP-SM	A-2-4, A-4	0	0	95-100	90-100	65-95	5-45	15-20	NP-8
153A:												
Pella-----------	0-12	Silty clay loam	CL	A-7-6, A-7-5	0	0	100	95-100	90-100	85-100	40-50	15-25
	12-33	Silty clay loam	CL	A-6, A-7-6	0	0	100	95-100	90-100	85-100	30-50	15-30
	33-42	Silty clay loam, silt loam, sandy loam	CL, SC	A-6, A-7-6	0-1	0-5	95-100	85-100	85-95	40-90	25-45	10-25
	42-60	Stratified loamy sand to silty clay loam	SC, SC-SM, CL	A-2-6, A-4, A-6, A-2-4	0-1	0-5	90-100	80-100	50-100	15-85	20-35	7-20
188A:												
Beardstown------	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	80-95	65-90	20-30	5-15
	8-16	Silt loam, loam	CL, SC-SM	A-4, A-6	0	0	100	100	80-95	50-85	20-30	5-15
	16-51	Sandy clay loam, loam, silty clay loam	CL, SC-SM	A-6, A-4	0	0	100	90-100	80-90	40-85	25-40	7-20
	51-62	Stratified loamy sand to sandy loam	SM, SC-SM, SP-SM	A-2-4, A-1-b, A-4	0	0	100	80-100	20-50	10-45	0-15	NP-5
189A:												
Martinton-------	0-12	Silt loam	CL	A-6, A-7-6	0	0	95-100	95-100	90-100	75-95	30-45	10-20
	12-39	Silty clay loam, silty clay	CL	A-6, A-7-6	0	0	95-100	95-100	90-100	70-95	35-50	20-30
	39-60	Stratified sandy loam to silty clay	CL, SC	A-6, A-7-6	0	0	90-100	80-100	75-100	35-90	25-45	10-25

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
201A:												
Gilford---------	0-22	Fine sandy loam	SC-SM, SC, SM	A-2-4, A-4	0	0	95-100	95-100	65-85	30-50	15-25	2-10
	22-41	Sandy loam, fine sandy loam	SC, SM, SC-SM	A-4, A-2-4	0	0	95-100	95-100	60-75	20-45	15-30	NP-8
	41-60	Sand, fine sand, loamy sand	SM, SP, SP-SM	A-2-4, A-3	0	0	95-100	85-100	55-75	3-20	0-14	NP
210A:												
Lena------------	0-8	Muck	PT	A-8	0	0	---	---	---	---	0-0	NP
	8-60	Muck	PT	A-8	0	0	---	---	---	---	0-0	NP
223B:												
Varna-----------	0-12	Silt loam	CL	A-4, A-6	0	0-1	98-100	95-100	90-100	80-95	25-40	8-20
	12-30	Silty clay, silty clay loam, clay	CL, CH	A-6, A-7-6	0-1	0-3	95-100	90-100	85-100	80-95	35-55	20-35
	30-48	Silty clay, silty clay loam	CL, CH	A-6, A-7-6	0-1	0-5	95-100	85-100	80-100	75-95	30-50	15-30
	48-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-100	85-100	80-100	70-95	30-45	13-25
223B2:												
Varna-----------	0-12	Silt loam	CL, ML	A-4, A-6	0	0-1	98-100	95-100	90-100	80-95	25-40	8-20
	12-27	Silty clay, silty clay loam, clay	CL, CH, MH	A-6, A-7-6	0-1	0-3	95-100	90-100	85-100	80-95	35-55	20-35
	27-39	Silty clay, silty clay loam	CL, ML	A-6, A-7-6	0-1	0-5	95-100	85-100	80-100	75-95	30-50	15-30
	39-60	Silty clay loam, clay loam	CL, ML	A-6, A-7-6	0-1	0-5	90-100	85-100	80-100	70-95	30-45	13-25

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
223C2:												
Varna-----------	0-9	Silt loam	CL	A-4, A-6	0	0-1	98-100	95-100	90-100	80-95	25-40	8-20
	9-29	Silty clay, silty clay loam, clay	CL, CH	A-6, A-7-6	0-1	0-3	95-100	90-100	85-100	80-95	35-55	20-35
	29-50	Silty clay, silty clay loam	CL, CH	A-6, A-7-6	0-1	0-5	95-100	85-100	80-100	75-95	30-50	15-30
	50-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-100	85-100	80-100	70-95	30-45	13-25
223C3:												
Varna-----------	0-6	Silty clay loam	CL	A-6, A-7-6	0	0-1	98-100	95-100	90-100	80-95	30-45	12-25
	6-16	Silty clay, silty clay loam, clay	CL, CH, MH	A-6, A-7-6	0-1	0-3	95-100	90-100	85-100	80-95	35-55	20-35
	16-19	Silty clay, silty clay loam	CL, ML	A-6, A-7-6	0-1	0-5	95-100	85-100	80-100	75-95	30-50	15-30
	19-60	Silty clay loam, clay loam	CL, ML	A-6, A-7-6	0-1	0-5	90-100	85-100	80-100	70-95	30-45	13-25
232A:												
Ashkum----------	0-12	Silty clay loam	CL, CH	A-7-6	0	0	100	100	95-100	85-100	45-52	22-28
	12-29	Silty clay loam, silty clay	CL, CH	A-7-6, A-7-5	0	0	100	97-100	95-100	85-100	45-57	22-32
	29-54	Silty clay loam	CL	A-6	0	0-1	95-100	85-98	80-95	70-95	33-45	12-22
	54-60	Silty clay loam	CL	A-6	0	0-3	95-100	85-98	80-95	70-95	33-39	12-17
235A:												
Bryce-----------	0-13	Silty clay	CH, CL, MH	A-7-6, A-7-5	0	0	100	100	95-100	85-98	45-60	20-30
	13-45	Silty clay, clay	CH, MH	A-7-6, A-7-5	0-1	0-2	95-100	95-100	95-100	80-95	50-60	25-35
	45-58	Silty clay, clay	CL, CH, MH	A-7-6, A-7-5	0-1	0-3	95-100	90-100	90-100	75-95	45-60	20-35
	58-66	Silty clay, silty clay loam, clay	CH, CL, MH	A-7-6, A-7-5	0-1	0-5	95-100	85-100	80-100	75-95	40-60	20-30

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
240A:												
Plattville------	0-14	Silt loam	CL	A-6	0	0	100	95-100	85-95	65-90	29-39	12-17
	14-39	Clay loam, loam, sandy clay loam	CL, SC	A-7-6, A-6	0	0-3	95-100	90-100	75-97	45-85	37-46	19-25
	39-44	Clay loam, loam, sandy clay loam	CL, SC	A-7-6, A-6	0	0-6	90-100	85-95	65-90	45-85	37-50	19-30
	44-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
241C3:												
Chatsworth------	0-5	Silty clay	CH, MH	A-7-6, A-7-5	0	0	100	100	95-100	90-100	50-65	25-35
	5-16	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	95-100	95-100	90-100	45-75	20-45
	16-60	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	95-100	90-100	80-95	45-65	20-35
293A:												
Andres----------	0-11	Silt loam	ML, CL	A-4, A-6	0	0	95-100	90-100	80-95	65-90	29-33	7-13
	11-26	Clay loam, sandy clay loam, loam	CL, ML	A-6	0	0-1	95-100	85-100	75-95	50-80	31-39	11-18
	26-50	Silty clay loam	ML, CL	A-6	0	0-1	95-100	85-100	80-95	70-95	33-39	12-17
	50-60	Silty clay loam, silt loam	ML, CL	A-6	0	0-3	95-100	85-100	80-95	70-95	30-39	10-17
293B:												
Andres----------	0-10	Silt loam	CL, ML	A-4, A-6	0	0	95-100	90-100	80-95	65-90	29-33	7-13
	10-36	Clay loam, sandy clay loam, loam	ML, CL	A-6	0	0-1	95-100	85-100	75-95	50-80	31-39	11-18
	36-47	Silty clay loam, silt loam	ML, CL	A-6	0	0-1	95-100	85-100	80-95	70-95	33-39	12-17
	47-60	Silty clay loam, silt loam	ML, CL	A-6	0	0-3	95-100	85-100	80-95	70-95	30-39	10-17

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
294A:												
Symerton--------	0-12	Silt loam	CL, ML	A-6, A-4	0	0	95-100	90-100	80-100	65-90	29-33	7-13
	12-18	Silty clay loam	CL, ML	A-6	0	0	95-100	90-100	80-100	70-95	31-37	10-15
	18-41	Gravelly clay loam, loam, clay loam, gravelly loam	SC-SM, SM, SC, CL	A-6, A-4	0	0-3	85-100	70-95	60-85	40-60	29-39	9-20
	41-50	Silt loam, silty clay loam	ML, CL	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	28-39	7-18
	50-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	24-37	7-18
294B:												
Symerton--------	0-15	Silt loam	ML, CL	A-6, A-4	0	0	95-100	90-100	80-100	65-90	29-33	7-13
	15-19	Silty clay loam	ML, CL	A-6	0	0	95-100	90-100	80-100	70-95	31-37	10-15
	19-35	Gravelly clay loam, loam, clay loam, gravelly loam	SC-SM, SM, SC, CL	A-6, A-4	0	0-3	85-100	70-95	60-85	40-60	29-39	9-20
	35-39	Silt loam, silty clay loam	ML, CL	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	28-39	7-18
	39-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	24-37	7-18
295A:												
Mokena----------	0-5	Silt loam	ML, CL	A-4, A-6	0	0	95-100	90-100	80-95	65-90	29-33	7-13
	5-15	Loam	CL, ML, CL-ML	A-6, A-4	0	0	95-100	90-100	80-95	60-80	25-35	5-15
	15-38	Clay loam, sandy clay loam, loam	ML, CL	A-6	0	0-1	95-100	85-100	75-95	50-80	31-39	11-18
	38-42	Silty clay, clay	CL, CH, MH	A-7-5, A-7-6	0	0-2	95-100	90-100	85-100	80-100	45-60	20-35
	42-60	Silty clay, clay	MH, CH, CL	A-7-5, A-7-6	0	0-5	90-100	85-100	85-100	80-100	40-55	20-31

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
298A:												
Beecher---------	0-9	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	85-100	29-37	7-15
	9-21	Silty clay loam, silty clay	CH, MH, CL	A-6, A-7-5, A-7-6	0	0	100	95-100	90-100	85-100	35-55	15-30
	21-37	Silty clay loam	ML, CL	A-6, A-7-6	0	0-1	95-100	85-98	80-95	70-95	33-42	12-20
	37-60	Silty clay loam	ML, CL	A-6	0	0-3	95-100	85-98	80-95	70-95	31-37	10-17
298B:												
Beecher---------	0-7	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	85-100	29-37	7-15
	7-24	Silty clay loam, silty clay	MH, CH, CL	A-6, A-7-5, A-7-6	0	0	100	95-100	90-100	85-100	35-55	15-30
	24-36	Silty clay loam	ML, CL	A-6, A-7-6	0	0-1	95-100	85-98	80-95	70-95	33-42	12-20
	36-60	Silty clay loam	ML, CL	A-6	0	0-3	95-100	85-98	80-95	70-95	31-37	10-17
311B:												
Ritchey---------	0-5	Silt loam	CL, ML	A-4, A-6	0	0	95-100	95-100	90-100	70-95	25-40	7-20
	5-9	Silt loam, loam	ML, CL-ML, CL	A-4, A-6	0	0	95-100	95-100	90-100	70-95	20-35	5-15
	9-17	Silty clay loam, clay loam, loam	CL, ML	A-6, A-7-6	0-2	0-5	90-100	85-100	70-100	50-85	30-45	15-25
	17-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
311C:												
Ritchey---------	0-6	Silt loam	ML, CL	A-4, A-6	0	0	95-100	95-100	90-100	70-95	25-40	7-20
	6-10	Silt loam, loam	CL-ML, ML, CL	A-4, A-6	0	0	95-100	95-100	90-100	70-95	20-35	5-15
	10-19	Silty clay loam, clay loam, loam	ML, CL	A-6, A-7-6	0-2	0-5	90-100	85-100	70-100	50-85	30-45	15-25
	19-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
311D:												
Ritchey---------	0-4	Silt loam	CL, ML	A-4, A-6	0	0	95-100	95-100	90-100	70-95	25-40	7-20
	4-8	Silt loam, loam	CL, ML, CL-ML	A-4, A-6	0	0	95-100	95-100	90-100	70-95	20-35	5-15
	8-16	Silty clay loam, clay loam, loam	CL, ML	A-6, A-7-6	0-2	0-5	90-100	85-100	70-100	50-85	30-45	15-25
	16-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
315A:												
Channahon-------	0-8	Silt loam	CL, ML	A-4, A-6	0-1	0-5	90-100	80-100	75-95	70-90	20-40	7-20
	8-16	Loam, silt loam, clay loam, silty clay loam	CL	A-6, A-7-6	0-2	0-10	90-100	80-100	75-95	50-85	30-45	15-25
	16-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
315B:												
Channahon-------	0-11	Silt loam	ML, CL	A-4, A-6	0-1	0-5	90-100	80-100	75-95	70-90	20-40	7-20
	11-18	Loam, silt loam, clay loam, silty clay loam	CL	A-6, A-7-6	0-2	0-10	90-100	80-100	75-95	50-85	30-45	15-25
	18-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
315C2:												
Channahon-------	0-6	Silt loam	ML, CL	A-4, A-6	0-1	0-5	90-100	80-100	75-95	70-90	20-40	7-20
	6-13	Loam, silt loam, clay loam, silty clay loam	CL	A-6, A-7-6	0-2	0-10	90-100	80-100	75-95	50-85	30-45	15-25
	13-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
330A:												
Peotone---------	0-13	Silty clay loam	CL, CH, MH	A-7-6, A-7-5	0	0	100	95-100	95-100	90-100	40-65	15-35
	13-50	Silty clay loam, silty clay	CL, CH, MH	A-7-6, A-7-5	0	0-3	98-100	95-100	90-100	85-100	40-70	15-40
	50-60	Silty clay loam, silt loam, silty clay	CL, CH, MH	A-6, A-7-6, A-7-5	0	0-5	95-100	95-100	90-100	75-100	30-60	15-30

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
369A:												
Waupecan--------	0-14	Silt loam	CL	A-4, A-6	0	0	100	100	90-100	85-95	20-35	8-15
	14-35	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	85-95	35-45	15-25
	35-49	Stratified gravelly loamy sand to sandy clay loam	CL-ML, ML, SM, SC, SC-SM	A-2-4, A-4	0	0	90-100	50-100	50-70	25-65	0-20	NP-10
	49-67	Stratified gravelly loamy sand to extremely gravelly coarse sand	GM, GP-GM, SP, SP-SM	A-1-a, A-1-b	0-5	5-35	40-95	15-80	10-50	1-15	0-14	NP
369B:												
Waupecan--------	0-11	Silt loam	CL	A-4, A-6	0	0	100	100	90-100	85-95	20-35	8-15
	11-39	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	85-95	35-45	15-25
	39-45	Stratified gravelly loamy sand to sandy clay loam	CL-ML, ML, SM, SC, SC-SM	A-2-4, A-4	0	0	90-100	50-100	50-70	25-65	0-20	NP-10
	45-60	Stratified gravelly loamy sand to extremely gravelly coarse sand	GM, GP-GM, SP, SP-SM	A-1-a, A-1-b	0-5	5-35	40-95	15-80	10-50	1-15	0-14	NP
380A:												
Fieldon---------	0-15	Loam	ML, CL-ML, CL	A-4	0	0	100	100	85-95	50-75	20-35	NP-10
	15-36	Fine sandy loam, very fine sandy loam, loam	ML, CL-ML, SC-SM, SM	A-4	0	0	100	100	70-90	35-60	15-30	NP-5
	36-60	Stratified fine sand to fine sandy loam	SM	A-2-4, A-4	0	0	100	100	60-100	15-40	0-14	NP

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
403E:												
Elizabeth-------	0-5	Silt loam	CL, ML	A-6, A-7-6	0-1	0-5	90-100	85-100	75-95	60-90	30-45	10-20
	5-13	Silt loam, loam, clay loam, cobbly silt loam	CL, ML	A-6, A-7-6	0-5	0-35	85-100	80-100	70-95	55-90	30-45	10-20
	13-16	Very cobbly silt loam, extremely cobbly loam, very cobbly loam, extremely cobbly clay loam	CL, ML	A-6	0-20	40-75	80-100	70-100	60-95	50-90	25-40	10-20
	16-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---
403F:												
Elizabeth-------	0-6	Silt loam	CL, ML	A-6, A-7-6	0-1	0-5	90-100	85-100	75-95	60-90	30-45	10-20
	6-11	Silt loam, loam, clay loam, cobbly silt loam	CL, ML	A-6, A-7-6	0-5	0-35	85-100	80-100	70-95	55-90	30-45	10-20
	11-14	Very cobbly silt loam, extremely cobbly loam, very cobbly loam, extremely cobbly clay loam	CL, ML	A-6	0-20	40-75	80-100	70-100	60-95	50-90	25-40	10-20
	14-60	Unweathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
440A:												
Jasper----------	0-11	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	85-100	50-70	25-35	5-15
	11-30	Clay loam, silty clay loam, loam	CL, ML, SC, SM	A-6, A-7-6	0	0	100	95-100	80-95	45-85	30-45	10-20
	30-47	Fine sandy loam, loam, sandy clay loam, sandy loam	SC, SC-SM, CL, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	100	90-100	70-85	30-60	20-30	5-15
	47-60	Stratified sand to silt loam	SC, SC-SM, SM, CL, CL-ML	A-2-4, A-4	0	0	100	85-100	60-85	15-65	5-25	NP-10
440B:												
Jasper----------	0-12	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	85-100	50-70	25-35	5-15
	12-26	Clay loam, silty clay loam, loam	CL, ML, SC, SM	A-6, A-7-6	0	0	100	95-100	80-95	45-85	30-45	10-20
	26-50	Fine sandy loam, loam, sandy clay loam, sandy loam	SC, SC-SM, CL, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	100	90-100	70-85	30-60	20-30	5-15
	50-60	Stratified sand to silt loam	SC, SC-SM, SM, CL, CL-ML	A-2-4, A-4	0	0	100	85-100	60-85	15-65	5-25	NP-10
440C2:												
Jasper----------	0-8	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	85-100	50-70	25-35	5-15
	8-23	Clay loam, silty clay loam, loam	CL, ML, SC, SM	A-6, A-7-6	0	0	100	95-100	80-95	45-85	30-45	10-20
	23-42	Fine sandy loam, loam, sandy clay loam, sandy loam	SC, SC-SM, CL, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	100	90-100	70-85	30-60	20-30	5-15
	42-60	Stratified sand to silt loam	SC, SC-SM, SM, CL, CL-ML	A-2-4, A-4	0	0	100	85-100	60-85	15-65	5-25	NP-10

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
493A:												
Bonfield--------	0-14	Loam	CL, CL-ML, ML	A-4, A-6	0	0-10	95-100	95-100	80-90	35-50	20-35	5-15
	14-20	Sandy loam, clay loam, sandy clay loam, loam	SC, SM, CL, ML	A-6, A-7-6	0-1	0-10	95-100	85-98	70-90	30-60	30-50	10-25
	20-26	Very cobbly fine sandy loam, cobbly sandy loam, cobbly loam	SC, SC-SM, SM, CL	A-2-4, A-2-6, A-6, A-4	0-2	20-70	75-95	45-80	30-65	20-55	20-40	3-15
	26-60	Very cobbly fine sandy loam, extremely cobbly sandy loam, cobbly loam	SM, SC-SM, SC, SP-SM	A-1-b, A-2-4, A-4	0-2	25-80	70-90	45-70	25-60	10-40	15-35	NP-10
494A:												
Kankakee--------	0-14	Fine sandy loam	CL, CL-ML, ML	A-4, A-6	0	0-10	95-100	95-100	80-90	35-50	20-35	5-15
	14-22	Sandy loam, clay loam, sandy clay loam, loam	SC, SM, CL, ML	A-6, A-7-6	0-1	0-10	95-100	85-98	70-90	30-60	30-50	10-25
	22-27	Very cobbly loam, cobbly sandy loam, cobbly loam	SC, SC-SM, SM, CL	A-2-4, A-2-6, A-6, A-4	0-2	20-70	75-95	45-80	30-65	20-55	20-40	3-15
	27-60	Very cobbly loam, extremely cobbly sandy loam, cobbly loam	SM, SC-SM, SC, SP-SM	A-1-b, A-2-4, A-4	0-2	25-80	70-90	45-70	25-60	10-40	15-35	NP-10

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
494B:												
Kankakee--------	0-11	Fine sandy loam	CL, CL-ML, ML	A-4, A-6	0	0-10	95-100	95-100	80-90	35-50	20-35	5-15
	11-14	Sandy loam, clay loam, sandy clay loam, loam	SC, SM, CL, ML	A-6, A-7-6	0-1	0-10	95-100	85-98	70-90	30-60	30-50	10-25
	14-21	Very cobbly loam, cobbly sandy loam, cobbly loam	SC, SC-SM, SM, CL	A-2-4, A-2-6, A-6, A-4	0-2	20-70	75-95	45-80	30-65	20-55	20-40	3-15
	21-60	Very cobbly loam, extremely cobbly sandy loam, cobbly loam	SM, SC-SM, SC, SP-SM	A-1-b, A-2-4, A-4	0-2	25-80	70-90	45-70	25-60	10-40	15-35	NP-10
501A:												
Morocco---------	0-10	Loamy fine sand	SC-SM, SM, SP-SM	A-2-4, A-3	0	0	100	95-100	80-100	10-30	10-25	NP-5
	10-14	Fine sand, sand, loamy fine sand	SM, SC-SM, SP	A-2-4, A-3	0	0	95-100	90-100	60-80	3-25	7-20	NP-4
	14-37	Fine sand, sand, loamy fine sand	SM, SC-SM, SP	A-2-4, A-3	0	0	95-100	90-100	60-80	3-25	5-20	NP-4
	37-80	Fine sand, sand, loamy fine sand	SM, SP, SC-SM	A-2-4, A-3	0	0	90-100	90-100	60-80	3-25	0-20	NP-4
503A:												
Rockton---------	0-17	Silt loam	CL	A-6	0	0	100	95-100	85-95	65-90	29-39	12-17
	17-28	Clay loam, loam	CL	A-7-6, A-6	0	0	95-100	90-100	75-97	55-85	37-46	19-25
	28-34	Clay loam, clay, silty clay	CH, CL	A-7-6	0	0-6	80-100	70-95	65-90	55-85	45-69	25-44
	34-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
503B:												
Rockton----------	0-11	Silt loam	CL	A-6	0	0	100	95-100	85-95	65-90	29-39	12-17
	11-27	Clay loam, loam	CL	A-7-6, A-6	0	0	95-100	90-100	75-97	55-85	37-46	19-25
	27-31	Clay loam, clay, silty clay	CL, CH	A-7-6	0	0-6	80-100	70-95	65-90	55-85	45-69	25-44
	31-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
509A:												
Whalan-----------	0-5	Silt loam	CL	A-6	0	0	100	95-100	85-95	65-90	29-39	12-17
	5-11	Silt loam	CL	A-6	0	0	100	95-100	85-95	60-85	27-36	12-17
	11-16	Silt loam	CL	A-6	0	0	100	95-100	85-95	55-85	27-36	12-17
	16-25	Clay loam, loam	CL	A-7-6, A-6	0	0	95-100	90-100	75-97	55-85	37-46	19-25
	25-30	Clay loam, clay, silty clay	CL, CH	A-7-6	0	0-6	80-100	70-95	65-90	55-85	45-69	25-44
	30-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
509B:												
Whalan-----------	0-5	Silt loam	CL	A-6	0	0	100	95-100	85-95	65-90	29-39	12-17
	5-11	Silt loam	CL	A-6	0	0	100	95-100	85-95	60-85	27-36	12-17
	11-15	Silt loam	CL	A-6	0	0	100	95-100	85-95	55-85	27-36	12-17
	15-27	Clay loam, loam	CL	A-7-6, A-6	0	0	95-100	90-100	75-97	55-85	37-46	19-25
	27-32	Clay loam, clay, silty clay	CH, CL	A-7-6	0	0-6	80-100	70-95	65-90	55-85	45-69	25-44
	32-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
513A:												
Granby-----------	0-8	Fine sandy loam	SC-SM, SM	A-4, A-2-4	0	0	100	100	60-70	25-45	5-20	NP-5
	8-17	Sand, loamy sand, loamy fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-75	5-25	0-15	NP-3
	17-30	Sand, fine sand, loamy fine sand	SM, SP-SM	A-2-4, A-3	0	0	100	95-100	50-75	5-25	0-15	NP-3
	30-80	Sand, fine sand, loamy sand	SP-SM, SP	A-2-4, A-3	0	0	100	90-100	50-70	0-20	0-14	NP

Table 21.--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 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
516A:												
Faxon-----------	0-5	Silt loam	CL	A-6	0	0	100	95-100	85-95	65-90	29-39	12-17
	5-13	Loam, clay loam	CL	A-7-6, A-6	0	0	95-100	90-100	75-97	55-85	35-42	17-22
	13-25	Clay loam, loam	CL	A-7-6, A-6	0	0-5	95-100	80-100	70-97	55-85	37-46	19-25
	25-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
523A:												
Dunham----------	0-11	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	85-95	30-50	15-30
	11-31	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	98-100	90-100	85-95	35-45	15-25
	31-42	Clay loam, silt loam, sandy loam, gravelly loam	SC, CL, ML	A-2-6, A-4, A-6	0	0-5	90-100	70-100	55-90	30-80	25-40	8-20
	42-60	Stratified gravelly sandy loam to extremely gravelly coarse sand	GP-GM, GM, SP-SM, SM	A-1-b, A-1-a	0-3	0-10	35-90	15-80	10-40	2-25	0-14	NP
526A:												
Grundelein------	0-13	Silt loam	ML, CL	A-4, A-6	0	0	100	100	90-100	85-100	30-40	8-15
	13-29	Silty clay loam, silt loam	ML, CL	A-6, A-7-6	0	0	100	98-100	90-100	80-100	35-50	10-25
	29-43	Clay loam, sandy loam, silt loam, gravelly loam	ML, SC, CL	A-2-4, A-4, A-6, A-2-6	0	0-5	90-100	70-100	55-90	30-80	25-40	8-20
	43-60	Stratified gravelly sandy loam to extremely gravelly coarse sand	GP-GM, SP-SM, SM, GM	A-1-a, A-1-b	0-3	0-10	40-90	15-80	10-50	2-25	0-14	NP

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
530B:												
Ozaukee---------	0-4	Silt loam	ML, CL	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	4-10	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0-2	95-100	95-100	90-100	85-95	20-35	5-15
	10-21	Silty clay loam, clay, silty clay	CL, CH, MH	A-7-5, A-7-6	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	21-39	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	39-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25
530C2:												
Ozaukee---------	0-6	Silt loam	ML, CL	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	6-21	Silty clay loam, clay, silty clay	CH, CL, MH	A-7-6, A-7-5	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	21-28	Silty clay loam, silty clay	CL, CH	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	28-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25
530C3:												
Ozaukee---------	0-9	Silty clay loam	ML, CL	A-6, A-7-6	0	0-1	90-98	85-98	85-95	80-95	35-50	15-25
	9-21	Silty clay loam, clay, silty clay	CL, CH, MH	A-7-6, A-7-5	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	21-27	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	27-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
530D2:												
Ozaukee----------	0-6	Silt loam	ML, CL	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	6-20	Silty clay loam, clay, silty clay	MH, CH, CL	A-7-6, A-7-5	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	20-28	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	28-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25
530D3:												
Ozaukee----------	0-9	Silty clay loam	CL, ML	A-6, A-7-6	0	0-1	90-98	85-98	85-95	80-95	35-50	15-25
	9-21	Silty clay loam, clay, silty clay	CH, MH, CL	A-7-6, A-7-5	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	21-25	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	25-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25
530E2:												
Ozaukee----------	0-6	Silt loam	CL, ML	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	6-27	Silty clay loam, clay, silty clay	CL, CH, MH	A-7-6, A-7-5	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	27-31	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	31-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
530F:												
Ozaukee---------	0-5	Silt loam	CL, ML	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	5-29	Silty clay loam, clay, silty clay	CL, CH, MH	A-7-6, A-7-5	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	29-36	Silty clay loam, silty clay	CL, CH	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	36-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25
531B:												
Markham---------	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0-1	0-2	95-100	95-100	90-100	85-95	25-40	6-17
	8-21	Silty clay, silty clay loam	CL, CH	A-7-6, A-7-5	0-1	0-5	95-100	90-100	85-100	80-95	40-55	20-35
	21-32	Silty clay loam, silty clay	CL, ML	A-6, A-7-6	0-2	0-5	90-100	85-100	80-100	75-95	30-50	15-30
	32-60	Silty clay loam, clay loam	CL, ML	A-6, A-7-6	0-2	0-10	90-100	85-100	75-95	70-95	30-45	13-25
531C2:												
Markham---------	0-8	Silt loam	CL-ML, CL, ML	A-4, A-6	0-1	0-2	95-100	95-100	90-100	85-95	25-40	6-17
	8-20	Silty clay, silty clay loam	CH, CL	A-7-5, A-7-6	0-1	0-5	95-100	90-100	85-100	80-95	40-55	20-35
	20-29	Silty clay loam, silty clay	ML, CL	A-6, A-7-6	0-2	0-5	90-100	85-100	80-100	75-95	30-50	15-30
	29-60	Silty clay loam, clay loam	CL, ML	A-6, A-7-6	0-2	0-10	90-100	85-100	75-95	70-95	30-45	13-25

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
570B:												
Martinsville----	0-7	Loam	CL, CL-ML, ML	A-4	0	0	100	90-100	75-95	50-70	15-25	3-8
	7-13	Sandy loam, loam	ML, CL-ML, CL	A-4	0	0	100	90-100	75-95	45-70	15-25	3-8
	13-48	Clay loam, silty clay loam, sandy clay loam, loam	ML, CL	A-4, A-6	0	0	95-100	85-100	70-95	45-90	25-40	7-15
	48-63	Sandy loam, sandy clay loam, silt loam	SC-SM, SC, CL-ML, CL	A-4, A-6	0	0	95-100	85-100	55-95	40-80	20-30	5-15
	63-80	Stratified sand to silt loam	SM, SC-SM, ML, CL-ML	A-1-b, A-2-4, A-4	0	0	95-100	85-100	45-95	10-80	15-25	NP-8
570C2:												
Martinsville----	0-6	Loam	CL, CL-ML, ML	A-4	0	0	100	90-100	75-95	50-70	15-25	3-8
	6-9	Sandy loam, loam	ML, CL-ML, CL	A-4	0	0	100	90-100	75-95	45-70	15-25	3-8
	9-35	Clay loam, silty clay loam, sandy clay loam, loam	ML, CL	A-4, A-6	0	0	95-100	85-100	70-95	45-90	25-40	7-15
	35-54	Sandy loam, sandy clay loam, silt loam	SC-SM, SC, CL-ML, CL	A-4, A-6	0	0	95-100	85-100	55-95	40-80	20-30	5-15
	54-80	Stratified sand to silt loam	SM, SC-SM, ML, CL-ML	A-1-b, A-2-4, A-4	0	0	95-100	85-100	45-95	10-80	15-25	NP-8

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
570D2:												
Martinsville----	0-5	Loam	CL, CL-ML, ML	A-4	0	0	100	90-100	75-95	50-70	15-25	3-8
	5-13	Sandy loam, loam	ML, CL-ML, CL	A-4	0	0	100	90-100	75-95	45-70	15-25	3-8
	13-35	Clay loam, silty clay loam, sandy clay loam, loam	CL, ML	A-4, A-6	0	0	95-100	85-100	70-95	45-90	25-40	7-15
	35-55	Sandy loam, sandy clay loam, silt loam	SC-SM, SC, CL-ML, CL	A-4, A-6	0	0	95-100	85-100	55-95	40-80	20-30	5-15
	55-80	Stratified sand to silt loam	SM, SC-SM, ML, CL-ML	A-1-b, A-2-4, A-4	0	0	95-100	85-100	45-95	10-80	15-25	NP-8
570E2:												
Martinsville----	0-4	Loam	CL, CL-ML, ML	A-4	0	0	100	90-100	75-95	50-70	15-25	3-8
	4-13	Sandy loam, loam	ML, CL-ML, CL	A-4	0	0	100	90-100	75-95	45-70	15-25	3-8
	13-47	Clay loam, silty clay loam, sandy clay loam, loam	CL, ML	A-4, A-6	0	0	95-100	85-100	70-95	45-90	25-40	7-15
	47-60	Sandy loam, sandy clay loam, silt loam	SC-SM, SC, CL-ML, CL	A-4, A-6	0	0	95-100	85-100	55-95	40-80	20-30	5-15
	60-80	Stratified sand to silt loam	SM, SC-SM, ML, CL-ML	A-1-b, A-2-4, A-4	0	0	95-100	85-100	45-95	10-80	15-25	NP-8

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
570F:												
Martinsville----	0-4	Loam	CL, CL-ML, ML	A-4	0	0	100	90-100	75-95	50-70	15-25	3-8
	4-11	Sandy loam, loam	ML, CL-ML, CL	A-4	0	0	100	90-100	75-95	45-70	15-25	3-8
	11-43	Clay loam, silty clay loam, sandy clay loam, loam	CL, ML	A-4, A-6	0	0	95-100	85-100	70-95	45-90	25-40	7-15
	43-58	Sandy loam, sandy clay loam, silt loam	SC-SM, SC, CL-ML, CL	A-4, A-6	0	0	95-100	85-100	55-95	40-80	20-30	5-15
	58-75	Stratified sand to silt loam	SM, SC-SM, ML, CL-ML	A-1-b, A-2-4, A-4	0	0	95-100	85-100	45-95	10-80	15-25	NP-8
594A:												
Reddick---------	0-13	Clay loam	ML, CL	A-6, A-7-6	0	0	95-100	85-98	80-90	60-85	30-45	10-25
	13-32	Clay loam, silty clay loam, loam	ML, CL	A-6, A-7-6	0	0-5	95-100	85-98	80-90	55-85	30-45	10-25
	32-47	Silty clay, silty clay loam	ML, CL, CH	A-6, A-7-6	0	0-5	95-100	85-100	85-95	75-95	35-55	15-35
	47-60	Silty clay loam, silty clay	CL, ML	A-6, A-7-6	0	0-5	95-100	85-100	85-95	75-95	30-50	15-30
610A:												
Tallmadge-------	0-8	Sandy loam	SC-SM, SC, SM	A-2-4, A-4	0	0	95-100	95-100	65-85	30-50	15-25	2-10
	8-17	Sandy clay loam, loam, clay loam	CL, SC	A-6, A-2-6, A-7-6	0	0	95-100	90-100	75-97	35-85	35-42	17-22
	17-33	Clay loam, loam, sandy clay loam	SC, CL	A-7-6, A-2-6	0	0-1	90-100	85-100	75-97	30-85	37-46	19-25
	33-43	Stratified channery clay loam to very channery loamy sand	SC, GC, CL	A-2-6, A-6, A-2-4	0-5	0-50	60-95	40-80	30-75	20-70	10-35	2-20
	43-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
664A:												
Rensselaer------	0-7	Sandy loam	SC-SM, SC, SM	A-2-4, A-4	0	0	95-100	95-100	65-85	30-50	15-25	2-10
	7-15	Clay loam	CL	A-6, A-4	0	0	95-100	95-100	80-100	55-85	25-40	8-20
	15-40	Clay loam, silty clay loam, loam	CL	A-4, A-6, A-7-6	0	0	95-100	90-100	80-90	55-85	30-45	10-25
	40-80	Stratified sand to silt loam	CL, SC, SC-SM, SM, CL-ML	A-4, A-2-4, A-6, A-2-6	0	0	90-100	85-100	60-90	10-70	15-35	5-20
688B:												
Braidwood-------	0-9	Loam	CL, ML	A-6, A-4	0	0-5	95-100	90-100	70-95	55-75	25-35	8-15
	9-22	Silt loam, loam	CL, ML	A-6, A-4	0-1	0-5	95-100	90-100	70-90	50-85	25-35	8-15
	22-42	Silt loam, loam, sandy loam	CL, CL-ML, SC-SM, ML, SM	A-2-4, A-4	0-1	0-10	90-100	85-100	60-90	30-75	0-20	NP-10
	42-64	Stratified sand to silt loam	SP-SM, SM, ML, SC-SM	A-2-4, A-4	0-2	0-10	90-100	85-100	55-85	10-75	0-20	NP-5
688D:												
Braidwood-------	0-8	Loam	CL, ML	A-6, A-4	0	0-5	95-100	90-100	70-95	55-75	25-35	8-15
	8-16	Silt loam, loam	ML, CL	A-6, A-4	0-1	0-5	95-100	90-100	70-90	50-85	25-35	8-15
	16-42	Silt loam, loam, sandy loam	CL, CL-ML, SC-SM, ML, SM	A-2-4, A-4	0-1	0-10	90-100	85-100	60-90	30-75	0-20	NP-10
	42-65	Stratified sand to silt loam	SP-SM, ML, SC-SM, SM	A-2-4, A-4	0-2	0-10	90-100	85-100	55-85	10-75	0-20	NP-5
688G:												
Braidwood-------	0-6	Loam	CL, ML	A-6, A-4	0	0-5	95-100	90-100	70-95	55-75	25-35	8-15
	6-15	Silt loam, loam	ML, CL	A-6, A-4	0-1	0-5	95-100	90-100	70-90	50-85	25-35	8-15
	15-37	Silt loam, loam, sandy loam	CL, CL-ML, SC-SM, ML, SM	A-2-4, A-4	0-1	0-10	90-100	85-100	60-90	30-75	0-20	NP-10
	37-65	Stratified sand to silt loam	SM, ML, SC-SM, SP-SM	A-2-4, A-4	0-2	0-10	90-100	85-100	55-85	10-75	0-20	NP-5

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
719A:												
Symerton--------	0-13	Fine sandy loam	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6	0	0-1	98-100	95-100	75-95	25-50	15-28	2-12
	13-32	Gravelly clay loam, loam, clay loam, gravelly loam	SC, SC-SM, CL, SM	A-6, A-4	0	0-3	85-100	70-95	60-85	40-60	29-39	9-20
	32-44	Silt loam, silty clay loam	ML, CL	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	28-39	7-18
	44-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	24-37	7-18
719B:												
Symerton--------	0-17	Fine sandy loam	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6	0	0-1	98-100	95-100	75-95	25-50	15-28	2-12
	17-31	Gravelly clay loam, loam, clay loam, gravelly loam	SC-SM, SC, CL, SM	A-6, A-4	0	0-3	85-100	70-95	60-85	40-60	29-39	9-20
	31-39	Silt loam, silty clay loam	ML, CL	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	28-39	7-18
	39-60	Silt loam, silty clay loam	ML, CL	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	24-37	7-18
719C2:												
Symerton--------	0-9	Fine sandy loam	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6	0	0-1	98-100	95-100	75-95	25-50	15-28	2-12
	9-22	Gravelly clay loam, loam, clay loam, gravelly loam	SC, SM, SC-SM, CL	A-6, A-4	0	0-3	85-100	70-95	60-85	40-60	29-39	9-20
	22-31	Silt loam, silty clay loam	ML, CL	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	28-39	7-18
	31-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	24-37	7-18

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
740A:												
Darroch---------	0-15	Silt loam	ML, CL-ML, CL	A-4, A-6	0	0	100	95-100	80-100	70-90	15-30	3-15
	15-21	Silt loam, clay loam, loam	ML, CL	A-4, A-6	0	0	95-100	90-100	75-100	60-90	20-40	7-20
	21-29	Clay loam, sandy clay loam, loam, fine sandy loam	SC-SM, CL, ML, SC, CL-ML	A-2-6, A-4, A-6, A-2-4	0	0	95-100	90-100	70-100	30-80	20-40	5-20
	29-60	Stratified sandy loam to silt loam	CL-ML, SM, CL, ML, SC-SM	A-4	0	0	90-100	80-100	70-90	35-85	15-25	NP-8
741B:												
Oakville--------	0-7	Fine sand	SP-SM, SP, SM	A-2-4, A-3	0	0	100	95-100	60-90	0-20	0-14	NP
	7-40	Fine sand, loamy fine sand	SP, SM, SP-SM	A-2-4, A-3	0	0	100	95-100	65-95	0-30	0-14	NP
	40-60	Loamy sand, fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0	100	95-100	60-90	0-30	0-14	NP
741D:												
Oakville--------	0-6	Fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	95-100	60-90	0-20	0-14	NP
	6-30	Fine sand, loamy fine sand	SP, SP-SM, SM	A-2-4, A-3	0	0	100	95-100	65-95	0-30	0-14	NP
	30-60	Loamy sand, fine sand	SP, SP-SM, SM	A-2-4, A-3	0	0	100	95-100	60-90	0-30	0-14	NP
741E:												
Oakville--------	0-5	Fine sand	SP-SM, SM, SP	A-2-4, A-3	0	0	100	95-100	60-90	0-20	0-14	NP
	5-29	Fine sand, loamy fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0	100	95-100	65-95	0-30	0-14	NP
	29-60	Loamy sand, fine sand	SM, SP-SM, SP	A-2-4, A-3	0	0	100	95-100	60-90	0-30	0-14	NP
741F:												
Oakville--------	0-5	Fine sand	SP, SP-SM, SM	A-2-4, A-3	0	0	100	95-100	60-90	0-20	0-14	NP
	5-32	Fine sand, loamy fine sand	SM, SP, SP-SM	A-2-4, A-3	0	0	100	95-100	65-95	0-30	0-14	NP
	32-60	Loamy sand, fine sand	SP-SM, SP, SM	A-2-4, A-3	0	0	100	95-100	60-90	0-30	0-14	NP

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
777A:												
Adrian----------	0-7	Muck	PT	A-8	0	0	---	---	---	---	0-0	NP
	7-40	Muck	PT	A-8	0	0	---	---	---	---	0-0	NP
	40-60	Loamy sand, fine sand, sand	SP, SP-SM	A-2-4, A-3	0	0	100	90-100	50-70	0-20	0-14	NP
779B:												
Chelsea---------	0-5	Loamy fine sand	SC-SM, SM, SP-SM	A-2-4, A-3	0	0	100	95-100	80-100	10-30	10-25	NP-5
	5-11	Fine sand, sand, loamy fine sand	SP, SM, SC-SM	A-2-4, A-3	0	0	98-100	95-100	60-80	3-25	7-20	NP-4
	11-33	Fine sand, sand, loamy fine sand	SC-SM, SP, SM	A-2-4, A-3	0	0	98-100	95-100	60-80	3-25	5-20	NP-4
	33-80	Stratified fine sand to fine sandy loam	SM, SP, SC-SM	A-1-b, A-2-4	0	0	98-100	95-100	45-80	4-35	10-20	NP-4
802B:												
Orthents, loamy	0-6	Loam	ML, CL	A-6, A-4	0-1	0-5	95-100	85-100	80-95	50-80	20-40	8-20
	6-60	Loam, silt loam, clay loam	CL, ML	A-6, A-4	0-1	0-5	95-100	80-100	75-95	50-80	20-40	8-20
802F:												
Orthents, loamy	0-6	Loam	ML, CL	A-4, A-6	0-1	0-5	95-100	85-100	80-95	50-80	20-40	8-20
	6-60	Loam, silt loam, clay loam	ML, CL	A-6, A-4	0-1	0-5	95-100	80-100	75-95	50-80	20-40	8-20
805B:												
Orthents, clayey	0-6	Silty clay	CH, CL, MH	A-7-6	0	0	98-100	90-100	85-100	80-98	45-55	20-40
	6-60	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0	0	98-100	85-100	80-98	75-95	40-55	25-45
830.												
Landfills												
864, 865.												
Pits												

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
3082A:												
Millington------	0-26	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	90-100	80-100	70-95	25-35	5-20
	26-36	Loam, silt loam, clay loam	CL, ML	A-6, A-7-6	0	0	95-100	80-100	75-100	65-90	28-50	10-22
	36-62	Stratified sandy loam to silty clay loam	ML, CL	A-4, A-7-6, A-6	0	0	90-100	80-100	60-95	40-85	20-45	5-20
3107A:												
Sawmill---------	0-29	Silty clay loam	CL, ML	A-7-6	0	0	100	97-100	95-100	85-100	40-46	16-21
	29-48	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	97-100	85-100	80-95	37-46	16-22
	48-60	Silty clay loam, clay loam, silt loam	CL, ML	A-7-6, A-6	0	0	100	90-100	85-100	80-95	37-46	16-22
3302A:												
Ambraw----------	0-11	Sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	100	95-100	65-85	30-50	15-25	2-10
	11-44	Clay loam, loam	SC, CL	A-6, A-4	0	0	100	85-100	80-95	50-85	25-40	10-20
	44-52	Loam, sandy clay loam, sandy loam	CL, CL-ML, SC, SC-SM, SM, ML	A-4, A-6, A-2-4, A-2-6	0	0	90-100	80-100	70-95	25-80	20-35	5-18
	52-70	Stratified sand to silt loam	CL, CL-ML, SC, SC-SM, SM	A-4, A-2-4	0	0	90-100	80-100	60-90	10-70	15-30	2-10
8302A:												
Ambraw----------	0-16	Loam	CL, SC-SM	A-4, A-6	0	0	100	95-100	65-85	50-75	15-30	5-15
	16-44	Clay loam, loam	CL	A-6, A-4	0	0	100	85-100	80-95	50-85	25-40	10-20
	44-52	Loam, sandy clay loam, sandy loam	CL, CL-ML, SC, SC-SM, SM, ML	A-4, A-6, A-2-4, A-2-6	0	0	90-100	80-100	70-95	25-80	20-35	5-18
	52-70	Stratified sand to silt loam	CL, CL-ML, SC, SC-SM, SM	A-4, A-2-4	0	0	90-100	80-100	60-90	10-70	15-30	2-10

Table 21.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
8451A:												
Lawson----------	0-14	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	85-100	20-40	5-20
	14-33	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	85-100	20-35	5-15
	33-80	Silt loam, silty clay loam, loam	CL, ML	A-6, A-7-6	0	0	100	100	90-100	60-100	20-45	10-25

Table 22.--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 Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
49A:														
Watseka-------------	0-10	72-90	0-26	2-13	1.35-1.55	6-20	0.10-0.12	0.0-2.9	1.0-2.5	.02	.02	5	2	134
	10-32	70-95	0-28	1-10	1.45-1.65	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.10	.10			
	32-60	71-98	0-28	1-10	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.05	.05			
69A:														
Milford-------------	0-18	5-20	40-60	35-40	1.30-1.50	0.6-2	0.20-0.23	6.0-8.9	4.0-6.0	.20	.20	5	4	86
	18-50	0-25	33-65	35-42	1.40-1.60	0.2-0.6	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	50-60	0-55	15-82	18-30	1.50-1.70	0.2-0.6	0.20-0.22	3.0-5.9	0.0-1.0	.37	.37			
88B:														
Sparta--------------	0-13	75-95	0-22	0-10	1.20-1.40	2-6	0.09-0.12	0.0-2.9	1.0-2.0	.02	.02	5	2	134
	13-71	72-95	0-27	1-8	1.40-1.60	6-20	0.05-0.11	0.0-2.9	0.0-0.5	.10	.10			
	71-80	52-97	0-29	3-16	1.40-1.60	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.10	.10			
91A:														
Swygert-------------	0-12	2-15	50-71	27-35	1.30-1.50	0.2-0.6	0.19-0.22	3.0-5.9	3.0-5.0	.20	.20	4	6	48
	12-26	1-15	30-59	40-55	1.40-1.60	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.5	.32	.32			
	26-51	1-20	30-59	40-50	1.45-1.65	0.06-0.2	0.10-0.13	6.0-8.9	0.1-1.0	.32	.32			
	51-60	1-20	25-59	38-55	1.65-1.85	0.02-0.06	0.05-0.09	3.0-5.9	0.0-0.5	.37	.37			
91B2:														
Swygert-------------	0-7	2-15	47-68	30-38	1.35-1.55	0.2-0.6	0.18-0.21	3.0-5.9	2.0-4.0	.20	.20	4	6	48
	7-30	1-15	30-59	40-55	1.40-1.60	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.5	.32	.32			
	30-48	1-20	30-59	40-50	1.45-1.65	0.06-0.2	0.10-0.13	6.0-8.9	0.1-1.0	.32	.32			
	48-60	1-20	25-59	38-55	1.65-1.85	0.02-0.06	0.05-0.09	3.0-5.9	0.0-0.5	.37	.37			
98B:														
Ade-----------------	0-22	73-90	0-24	3-12	1.35-1.55	6-20	0.10-0.12	0.0-2.9	1.0-2.0	.02	.02	5	2	134
	22-29	80-97	0-17	3-12	1.40-1.60	6-20	0.06-0.11	0.0-2.9	0.2-1.0	.15	.15			
	29-60	65-98	0-32	3-16	1.40-1.60	6-20	0.06-0.14	0.0-2.9	0.2-0.5	.17	.17			
	60-80	85-98	0-14	1-8	1.50-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
102A:														
La Hogue------------	0-16	25-45	28-60	15-27	1.40-1.60	0.6-2	0.20-0.24	0.0-2.9	3.0-4.0	.24	.24	5	6	48
	16-32	20-60	5-55	20-35	1.50-1.70	0.6-2	0.12-0.20	3.0-5.9	0.5-2.0	.32	.32			
	32-48	30-80	0-55	10-22	1.55-1.75	0.6-2	0.08-0.20	0.0-2.9	0.2-1.0	.28	.28			
	48-60	20-85	0-75	5-20	1.60-1.80	0.6-6	0.05-0.20	0.0-2.9	0.0-0.5	.24	.24			

Table 22.--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 Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
103A:														
Houghton------------	0-19	---	---	---	0.20-0.35	0.2-6	0.35-0.45	---	70-99	---	---	3	2	134
	19-60	---	---	---	0.15-0.25	0.2-6	0.35-0.45	---	70-99	---	---			
125A:														
Selma---------------	0-6	20-45	28-60	20-27	1.40-1.60	0.6-2	0.20-0.24	0.0-2.9	4.0-6.0	.24	.24	5	6	48
	6-13	20-45	20-53	27-35	1.40-1.60	0.6-2	0.17-0.19	3.0-5.9	3.0-5.0	.17	.17			
	13-44	15-62	6-67	18-32	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.0-2.0	.32	.32			
	44-80	30-90	0-63	7-18	1.60-1.90	2-6	0.07-0.19	0.0-2.9	0.0-1.0	.24	.24			
131B:														
Alvin---------------	0-8	55-70	15-35	10-15	1.45-1.65	2-6	0.14-0.17	0.0-2.9	0.5-1.5	.20	.20	5	3	86
	8-11	55-75	10-35	10-15	1.45-1.65	2-6	0.10-0.17	0.0-2.9	0.0-0.5	.24	.24			
	11-25	45-70	12-40	15-18	1.40-1.65	2-6	0.14-0.18	0.0-2.9	0.0-0.5	.24	.24			
	25-80	65-95	0-32	3-10	1.45-1.65	2-6	0.10-0.15	0.0-2.9	0.0-0.3	.20	.20			
146A:														
Elliott-------------	0-6	2-15	58-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.24	.24	4	6	48
	6-11	2-15	50-71	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	2.5-4.0	.20	.20			
	11-16	1-20	30-61	40-50	1.40-1.60	0.06-0.6	0.10-0.13	6.0-8.9	0.5-1.5	.32	.32			
	16-41	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	41-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
146B:														
Elliott-------------	0-9	2-15	58-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.24	.24	4	6	48
	9-13	2-15	50-71	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	2.5-4.0	.20	.20			
	13-17	1-20	35-61	38-45	1.40-1.60	0.06-0.6	0.11-0.14	6.0-8.9	0.5-1.5	.32	.32			
	17-35	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	35-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
146B2:														
Elliott-------------	0-8	2-15	50-71	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	2.5-4.0	.20	.20	4	6	48
	8-14	1-20	35-61	38-45	1.40-1.60	0.06-0.6	0.11-0.14	6.0-8.9	0.5-1.5	.32	.32			
	14-27	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	27-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
149A:														
Brenton-------------	0-12	0-15	58-80	20-27	1.25-1.45	0.6-2	0.22-0.26	0.0-2.9	3.0-5.0	.28	.28	5	6	48
	12-28	0-15	50-75	25-35	1.30-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37			
	28-44	15-60	10-67	18-30	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.32	.32			
	44-60	15-85	0-80	5-30	1.50-1.70	0.6-6	0.11-0.20	0.0-2.9	0.0-0.5	.28	.28			

Table 22.--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 Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
150A:														
Onarga--------------	0-17	50-75	10-42	8-15	1.30-1.65	0.6-6	0.14-0.18	0.0-2.9	1.0-3.0	.17	.17	5	3	86
	17-35	45-75	7-43	12-18	1.45-1.70	0.6-6	0.15-0.19	0.0-2.9	0.2-1.0	.24	.24			
	35-80	65-95	0-33	2-10	1.65-1.90	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
150B:														
Onarga--------------	0-13	50-75	10-42	8-15	1.30-1.65	0.6-6	0.14-0.18	0.0-2.9	1.0-3.0	.17	.17	5	3	86
	13-29	45-75	7-43	12-18	1.45-1.70	0.6-6	0.15-0.19	0.0-2.9	0.2-1.0	.24	.24			
	29-60	65-95	0-33	2-10	1.65-1.90	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
151A:														
Ridgeville----------	0-16	50-80	10-38	10-15	1.30-1.65	0.6-6	0.15-0.18	0.0-2.9	2.0-4.0	.17	.17	5	3	86
	16-40	45-70	8-43	12-22	1.45-1.70	0.6-6	0.15-0.19	0.0-2.9	0.2-1.0	.24	.24			
	40-60	60-95	0-37	3-10	1.55-1.90	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
153A:														
Pella---------------	0-12	0-15	50-73	27-35	1.10-1.30	0.6-2	0.21-0.23	3.0-5.9	4.0-6.0	.24	.24	5	6	48
	12-33	0-15	50-73	27-35	1.20-1.45	0.6-2	0.21-0.24	3.0-5.9	0.5-2.0	.37	.37			
	33-42	10-55	15-75	15-30	1.35-1.60	0.6-2	0.15-0.20	3.0-5.9	0.2-0.5	.32	.32			
	42-60	15-80	0-75	10-30	1.40-1.70	0.6-6	0.10-0.22	0.0-2.9	0.0-0.2	.28	.28			
188A:														
Beardstown----------	0-8	10-35	50-75	15-27	1.35-1.55	0.6-2	0.19-0.25	0.0-2.9	2.0-4.0	.28	.28	5	6	48
	8-16	15-50	27-70	15-27	1.25-1.40	0.6-2	0.17-0.22	0.0-2.9	0.5-1.0	.37	.37			
	16-51	15-65	10-55	18-30	1.40-1.60	0.6-2	0.15-0.20	3.0-5.9	0.0-1.0	.32	.32			
	51-62	55-85	5-40	5-15	1.40-1.65	2-6	0.08-0.17	0.0-2.9	0.0-0.5	.17	.17			
189A:														
Martinton-----------	0-12	5-25	50-70	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	4.0-5.0	.24	.24	5	6	48
	12-39	5-25	30-60	35-45	1.25-1.45	0.2-0.6	0.11-0.20	3.0-5.9	0.5-2.0	.37	.37			
	39-60	10-65	5-75	15-42	1.40-1.60	0.2-0.6	0.11-0.22	3.0-5.9	0.0-0.5	.37	.37			
201A:														
Gilford-------------	0-22	50-75	7-40	10-18	1.45-1.65	2-6	0.16-0.18	0.0-2.9	3.0-5.0	.17	.17	5	3	86
	22-41	55-80	2-37	8-18	1.55-1.75	2-6	0.12-0.14	0.0-2.9	0.2-1.5	.24	.24			
	41-60	75-97	0-24	1-8	1.65-1.85	6-20	0.05-0.08	0.0-2.9	0.0-0.5	.05	.05			
210A:														
Lena----------------	0-8	---	---	---	0.15-0.45	2-6	0.35-0.45	---	60-99	---	---	3	2	134
	8-60	---	---	---	0.15-0.45	2-6	0.35-0.45	---	60-99	---	---			

Table 22.--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					
223B:														
Varna---------------	0-12	5-20	53-75	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.5-4.0	.24	.24	4	6	48
	12-30	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.19	3.0-5.9	0.5-1.5	.37	.37			
	30-48	5-20	30-60	30-45	1.50-1.70	0.06-0.2	0.10-0.19	3.0-5.9	0.2-1.0	.37	.37			
	48-60	5-22	40-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
223B2:														
Varna---------------	0-12	5-20	53-75	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.24	.24	4	6	48
	12-27	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.19	3.0-5.9	0.5-1.5	.37	.37			
	27-39	5-20	30-60	30-45	1.50-1.70	0.06-0.2	0.10-0.19	3.0-5.9	0.2-1.0	.37	.37			
	39-60	5-22	40-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
223C2:														
Varna---------------	0-9	5-20	53-75	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.24	.24	4	6	48
	9-29	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.19	3.0-5.9	0.5-1.5	.37	.37			
	29-50	5-20	30-60	30-45	1.50-1.70	0.06-0.2	0.10-0.19	3.0-5.9	0.2-1.0	.37	.37			
	50-60	5-22	40-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
223C3:														
Varna---------------	0-6	5-20	45-68	27-35	1.30-1.50	0.2-0.6	0.10-0.21	3.0-5.9	0.5-2.0	.37	.37	3	6	48
	6-16	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.19	3.0-5.9	0.5-1.5	.37	.37			
	16-19	5-20	30-60	30-45	1.50-1.70	0.06-0.2	0.10-0.19	3.0-5.9	0.2-1.0	.37	.37			
	19-60	5-22	40-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
232A:														
Ashkum--------------	0-12	1-15	45-64	35-40	1.20-1.45	0.2-0.6	0.18-0.21	6.0-8.9	3.0-7.0	.20	.20	5	4	86
	12-29	2-15	40-63	35-45	1.30-1.50	0.2-0.6	0.15-0.18	6.0-8.9	0.5-2.5	.32	.32			
	29-54	5-20	40-65	30-40	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	54-60	5-20	45-68	27-35	1.55-1.75	0.2-0.6	0.07-0.15	3.0-5.9	0.0-0.5	.43	.43			
235A:														
Bryce---------------	0-13	2-15	40-58	40-50	1.30-1.50	0.2-0.6	0.12-0.16	6.0-8.9	4.0-7.0	.17	.17	5	4	86
	13-45	5-20	28-53	42-52	1.35-1.60	0.06-0.2	0.09-0.13	6.0-8.9	0.5-3.0	.32	.32			
	45-58	5-20	20-55	40-60	1.50-1.70	0.02-0.06	0.07-0.11	6.0-8.9	0.1-0.5	.32	.32			
	58-66	5-20	25-57	38-55	1.60-1.75	0.02-0.06	0.03-0.05	3.0-5.9	0.0-0.5	.37	.37			
240A:														
Plattville----------	0-14	15-35	40-65	18-25	1.30-1.45	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.24	.24	5	6	48
	14-39	20-60	10-55	25-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.5	.32	.32			
	39-44	20-60	10-50	25-40	1.45-1.60	0.6-2	0.14-0.19	3.0-5.9	0.0-0.5	.28	.28			
	44-60	---	---	---	---	2-20	---	---	---	---	---			

Table 22.--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 Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
241C3:														
Chatsworth----------	0-5	0-10	30-60	40-60	1.35-1.60	0.02-0.06	0.09-0.16	3.0-5.9	0.5-1.0	.32	.32	2	4	86
	5-16	0-10	30-65	35-60	1.50-1.70	0.02-0.06	0.05-0.07	3.0-5.9	0.0-0.5	.32	.32			
	16-60	5-15	35-60	35-50	1.70-1.90	0.02-0.06	0.03-0.05	3.0-5.9	0.0-0.5	.37	.37			
293A:														
Andres--------------	0-11	10-30	50-70	20-27	1.35-1.55	0.6-2	0.17-0.21	0.0-2.9	3.5-5.0	.24	.24	5	6	48
	11-26	20-50	15-53	24-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.5-1.5	.32	.32			
	26-50	5-20	45-68	27-35	1.55-1.75	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	50-60	5-20	45-73	22-35	1.65-1.85	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
293B:														
Andres--------------	0-10	10-30	50-70	20-27	1.35-1.55	0.6-2	0.17-0.21	0.0-2.9	3.5-5.0	.24	.24	5	6	48
	10-36	20-50	15-53	24-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.5-1.5	.32	.32			
	36-47	5-20	45-73	22-35	1.55-1.75	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	47-60	5-20	45-73	22-35	1.65-1.85	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
294A:														
Symerton------------	0-12	10-30	50-70	20-27	1.30-1.50	0.6-2	0.17-0.21	0.0-2.9	2.5-4.0	.24	.24	5	6	48
	12-18	10-20	45-63	27-35	1.40-1.60	0.6-2	0.17-0.22	3.0-5.9	0.5-2.0	.32	.32			
	18-41	25-50	15-50	24-35	1.45-1.70	0.6-2	0.10-0.15	3.0-5.9	0.1-1.0	.32	.32			
	41-50	2-20	45-74	24-35	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	50-60	2-20	48-78	20-32	1.60-1.80	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
294B:														
Symerton------------	0-15	10-30	50-70	20-27	1.30-1.50	0.6-2	0.17-0.21	0.0-2.9	2.5-4.0	.24	.24	5	6	48
	15-19	10-20	45-63	27-35	1.40-1.60	0.6-2	0.17-0.22	3.0-5.9	1.0-3.0	.24	.24			
	19-35	25-50	15-50	24-35	1.45-1.70	0.6-2	0.10-0.15	3.0-5.9	0.1-1.0	.28	.32			
	35-39	2-20	45-74	24-35	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	39-60	2-20	48-78	20-32	1.60-1.80	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
295A:														
Mokena--------------	0-5	10-30	50-70	20-27	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	3.5-5.0	.24	.24	4	6	48
	5-15	25-45	28-50	20-27	1.40-1.55	0.6-2	0.17-0.21	0.0-2.9	3.0-4.0	.24	.24			
	15-38	20-50	15-53	24-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.5-1.5	.32	.32			
	38-42	1-20	20-59	40-60	1.55-1.75	0.06-0.2	0.05-0.12	6.0-8.9	0.1-0.5	.32	.32			
	42-60	1-20	20-59	40-60	1.65-1.85	0.02-0.06	0.03-0.07	3.0-5.0	0.0-0.5	.37	.37			
298A:														
Beecher-------------	0-9	2-15	58-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.28	.28	4	6	48
	9-21	2-15	35-63	35-50	1.40-1.60	0.06-0.6	0.11-0.15	3.0-5.9	0.2-1.0	.37	.37			
	21-37	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	37-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			

Table 22.--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 Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
298B:														
Beecher-------------	0-7	2-15	58-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.28	.28	4	6	48
	7-24	2-15	35-63	35-50	1.40-1.60	0.06-0.6	0.11-0.15	3.0-5.9	0.2-1.0	.37	.37			
	24-36	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	36-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
311B:														
Ritchey-------------	0-5	5-30	50-77	18-27	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	2	6	48
	5-9	5-30	45-77	18-25	1.25-1.45	0.6-2	0.20-0.23	0.0-2.9	0.5-1.5	.37	.37			
	9-17	15-50	20-60	25-35	1.35-1.60	0.6-2	0.14-0.20	3.0-5.9	0.2-1.0	.32	.32			
	17-60	---	---	---	---	0.06-0.6	---	---	---	---	---			
311C:														
Ritchey-------------	0-6	5-30	50-77	18-27	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	2	6	48
	6-10	5-30	45-77	18-25	1.25-1.45	0.6-2	0.20-0.23	0.0-2.9	0.5-1.5	.37	.37			
	10-19	15-50	20-60	25-35	1.35-1.60	0.6-2	0.14-0.20	3.0-5.9	0.2-1.0	.32	.32			
	19-60	---	---	---	---	0.06-0.6	---	---	---	---	---			
311D:														
Ritchey-------------	0-4	5-30	50-77	18-27	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	2	6	48
	4-8	5-30	45-77	18-25	1.25-1.45	0.6-2	0.20-0.23	0.0-2.9	0.5-1.5	.37	.37			
	8-16	15-50	20-60	25-35	1.35-1.60	0.6-2	0.14-0.20	3.0-5.9	0.2-1.0	.32	.32			
	16-60	---	---	---	---	0.06-0.6	---	---	---	---	---			
315A:														
Channahon-----------	0-8	10-30	50-72	18-27	1.20-1.40	0.6-2	0.17-0.23	0.0-2.9	2.0-4.0	.24	.24	2	4L	86
	8-16	15-50	15-60	25-35	1.35-1.60	0.6-2	0.14-0.22	3.0-5.9	0.0-1.5	.32	.32			
	16-60	---	---	---	---	0.06-0.6	---	---	---	---	---			
315B:														
Channahon-----------	0-11	10-30	50-72	18-27	1.20-1.40	0.6-2	0.17-0.23	0.0-2.9	2.0-4.0	.24	.24	2	4L	86
	11-18	15-50	15-60	25-35	1.35-1.60	0.6-2	0.14-0.22	3.0-5.9	0.0-1.5	.32	.32			
	18-60	---	---	---	---	0.06-0.6	---	---	---	---	---			
315C2:														
Channahon-----------	0-6	10-30	50-72	18-27	1.20-1.40	0.6-2	0.17-0.23	0.0-2.9	2.0-3.0	.24	.24	2	4L	86
	6-13	15-50	15-60	25-35	1.35-1.60	0.6-2	0.14-0.22	3.0-5.9	0.0-1.5	.32	.32			
	13-60	---	---	---	---	0.06-0.6	---	---	---	---	---			
330A:														
Peotone-------------	0-13	0-10	50-67	33-40	1.20-1.40	0.2-0.6	0.21-0.23	6.0-8.9	5.0-7.0	.24	.24	5	4	86
	13-50	0-10	45-65	35-45	1.30-1.60	0.2-0.6	0.11-0.20	6.0-8.9	0.5-3.0	.37	.37			
	50-60	0-20	38-75	25-42	1.40-1.65	0.2-0.6	0.10-0.20	6.0-8.9	0.2-0.5	.43	.43			

Table 22.--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 Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
369A:														
Waupecan------------	0-14	5-15	68-80	15-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.28	.28	4	6	48
	14-35	5-15	50-70	25-35	1.30-1.50	0.6-2	0.18-0.22	3.0-5.9	0.5-1.0	.37	.37			
	35-49	35-75	5-50	10-25	1.55-1.75	0.6-6	0.08-0.18	0.0-2.9	0.2-0.5	.28	.32			
	49-67	85-99	0-15	0-10	1.60-1.80	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
369B:														
Waupecan------------	0-11	5-15	68-80	15-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.28	.28	4	6	48
	11-39	5-15	50-70	25-35	1.30-1.50	0.6-2	0.18-0.22	3.0-5.9	0.5-1.0	.37	.37			
	39-45	35-75	5-50	10-25	1.55-1.75	0.6-6	0.08-0.18	0.0-2.9	0.2-0.5	.28	.32			
	45-60	85-99	0-15	0-10	1.60-1.80	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
380A:														
Fieldon-------------	0-15	30-52	26-50	15-22	1.25-1.45	0.6-2	0.18-0.20	0.0-2.9	3.0-6.0	.24	.24	5	4L	86
	15-36	40-70	12-50	10-18	1.45-1.65	0.6-2	0.15-0.17	0.0-2.9	0.2-2.0	.24	.24			
	36-60	60-90	0-35	5-15	1.60-1.80	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
403E:														
Elizabeth-----------	0-5	5-32	50-77	18-27	1.15-1.25	0.6-2	0.18-0.24	0.0-2.9	2.5-5.0	.24	.24	2	6	48
	5-13	5-40	30-77	18-35	1.25-1.45	0.6-2	0.16-0.23	3.0-5.9	1.0-3.0	.24	.24			
	13-16	5-40	30-77	18-35	1.30-1.50	0.6-2	0.02-0.10	0.0-2.9	1.0-2.0	.17	.24			
	16-60	---	---	---	---	0.06-0.6	---	---	---	---	---			
403F:														
Elizabeth-----------	0-6	5-32	50-77	18-27	1.15-1.25	0.6-2	0.18-0.24	0.0-2.9	2.5-5.0	.24	.24	2	6	48
	6-11	5-40	30-77	18-35	1.25-1.45	0.6-2	0.16-0.23	3.0-5.9	1.0-3.0	.20	.24			
	11-14	5-40	30-77	18-35	1.30-1.50	0.6-2	0.02-0.10	0.0-2.9	1.0-2.0	.17	.24			
	14-60	---	---	---	---	0.06-0.6	---	---	---	---	---			
440A:														
Jasper--------------	0-11	30-50	28-50	12-25	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	3.0-5.0	.24	.24	5	5	56
	11-30	15-55	13-65	20-32	1.40-1.60	0.6-2	0.16-0.18	3.0-5.9	0.5-1.5	.32	.32			
	30-47	45-65	5-43	12-30	1.40-1.60	0.6-2	0.14-0.16	0.0-2.9	0.0-0.5	.28	.28			
	47-60	30-90	0-65	5-20	1.50-1.70	0.6-6	0.10-0.21	0.0-2.9	0.0-0.5	.24	.24			
440B:														
Jasper--------------	0-12	30-50	28-50	12-25	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	3.0-5.0	.24	.24	5	5	56
	12-26	15-55	13-65	20-32	1.40-1.60	0.6-2	0.16-0.18	3.0-5.9	0.5-1.5	.32	.32			
	26-50	45-65	5-43	12-30	1.40-1.60	0.6-2	0.14-0.16	0.0-2.9	0.0-0.5	.28	.28			
	50-60	30-90	0-65	5-20	1.50-1.70	0.6-6	0.10-0.21	0.0-2.9	0.0-0.5	.24	.24			

Table 22.--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 Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
440C2:														
Jasper--------------	0-8	30-50	28-50	12-25	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	3.0-4.0	.24	.24	5	5	56
	8-23	15-55	13-65	20-32	1.40-1.60	0.6-2	0.16-0.18	3.0-5.9	0.5-1.5	.32	.32			
	23-42	45-65	5-43	12-30	1.40-1.60	0.6-2	0.14-0.16	0.0-2.9	0.0-0.5	.28	.28			
	42-60	30-90	0-65	5-20	1.50-1.70	0.6-6	0.10-0.21	0.0-2.9	0.0-0.5	.24	.24			
493A:														
Bonfield------------	0-14	35-65	18-50	10-25	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	2.0-4.0	.24	.24	4	6	48
	14-20	35-65	5-47	15-35	1.40-1.60	0.6-2	0.12-0.19	3.0-5.9	0.2-1.0	.32	.32			
	20-26	35-70	5-55	10-25	1.45-1.65	0.6-6	0.07-0.15	0.0-2.9	0.1-0.5	.24	.28			
	26-60	35-75	5-50	5-20	1.50-1.70	2-6	0.05-0.13	0.0-2.9	0.0-0.5	.17	.24			
494A:														
Kankakee------------	0-14	50-65	15-40	10-20	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	2.0-4.0	.24	.24	4	3	86
	14-22	35-65	5-47	18-35	1.40-1.60	0.6-2	0.12-0.19	3.0-5.9	0.2-1.0	.32	.32			
	22-27	35-70	5-50	10-25	1.45-1.65	0.6-6	0.07-0.15	0.0-2.9	0.1-0.5	.24	.28			
	27-60	35-75	5-50	5-20	1.50-1.70	2-6	0.05-0.13	0.0-2.9	0.0-0.5	.17	.24			
494B:														
Kankakee------------	0-11	50-65	15-40	10-20	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	2.0-4.0	.24	.24	4	3	86
	11-14	35-65	5-47	18-35	1.40-1.60	0.6-2	0.12-0.19	3.0-5.9	0.2-1.0	.32	.32			
	14-21	35-70	5-50	10-25	1.45-1.65	0.6-6	0.07-0.15	0.0-2.9	0.1-0.5	.24	.28			
	21-60	35-75	5-50	5-20	1.50-1.70	2-6	0.05-0.13	0.0-2.9	0.0-0.5	.17	.24			
501A:														
Morocco-------------	0-10	72-90	0-26	2-13	1.35-1.55	6-20	0.10-0.12	0.0-2.9	0.5-1.5	.02	.02	5	2	134
	10-14	70-90	0-28	1-10	1.40-1.60	6-20	0.08-0.11	0.0-2.9	0.1-1.0	.10	.10			
	14-37	70-95	0-28	1-10	1.45-1.65	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.10	.10			
	37-80	71-98	0-28	1-10	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.05	.05			
503A:														
Rockton-------------	0-17	15-35	40-65	18-25	1.30-1.45	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.24	.24	3	6	48
	17-28	20-50	20-55	25-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.5	.32	.32			
	28-34	15-40	20-50	35-60	1.35-1.45	0.06-0.6	0.09-0.15	6.0-8.9	0.0-0.5	.17	.20			
	34-60	---	---	---	---	2-20	---	---	---	---	---			
503B:														
Rockton-------------	0-11	15-35	40-65	18-25	1.30-1.45	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.24	.24	3	6	48
	11-27	20-50	20-55	25-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.5-1.5	.32	.32			
	27-31	15-40	20-50	35-60	1.35-1.45	0.06-0.6	0.09-0.15	6.0-8.9	0.0-0.5	.17	.20			
	31-60	---	---	---	---	2-20	---	---	---	---	---			

Table 22.--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 Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
509A:														
Whalan--------------	0-5	15-35	40-65	18-25	1.30-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.32	.32	3	6	48
	5-11	20-45	30-60	18-25	1.30-1.45	0.6-2	0.17-0.19	0.0-2.9	0.2-1.0	.37	.37			
	11-16	20-50	28-60	18-25	1.30-1.45	0.6-2	0.17-0.19	0.0-2.9	0.2-0.5	.32	.32			
	16-25	20-50	20-55	25-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.32	.32			
	25-30	15-40	20-50	35-60	1.35-1.45	0.06-0.6	0.09-0.15	6.0-8.9	0.0-0.5	.17	.20			
	30-60	---	---	---	---	2-20	---	---	---	---	---			
509B:														
Whalan--------------	0-5	15-35	40-65	18-25	1.30-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.32	.32	3	6	48
	5-11	20-45	30-60	18-25	1.30-1.45	0.6-2	0.17-0.19	0.0-2.9	0.2-1.0	.37	.37			
	11-15	20-50	28-60	18-25	1.30-1.45	0.6-2	0.17-0.19	0.0-2.9	0.2-0.5	.32	.32			
	15-27	20-50	20-55	25-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.32	.32			
	27-32	15-40	20-50	35-60	1.35-1.45	0.06-0.6	0.09-0.15	6.0-8.9	0.0-0.5	.17	.20			
	32-60	---	---	---	---	2-20	---	---	---	---	---			
513A:														
Granby--------------	0-8	55-75	7-43	2-18	1.30-1.60	2-6	0.12-0.17	0.0-2.9	3.0-5.0	.17	.17	5	3	86
	8-17	75-95	0-25	0-14	1.35-1.55	6-20	0.07-0.12	0.0-2.9	0.5-2.0	.05	.05			
	17-30	75-95	0-25	0-14	1.45-1.65	6-20	0.06-0.11	0.0-2.9	0.2-1.5	.10	.10			
	30-80	80-98	0-20	0-10	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.05	.05			
516A:														
Faxon---------------	0-5	15-35	40-65	18-25	1.30-1.45	0.6-2	0.22-0.24	0.0-2.9	4.0-6.0	.24	.24	3	6	48
	5-13	20-50	20-55	22-32	1.35-1.50	0.6-2	0.17-0.22	3.0-5.9	2.0-4.0	.24	.24			
	13-25	20-50	20-55	25-35	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.2-1.5	.32	.32			
	25-60	---	---	---	---	2-20	---	---	---	---	---			
523A:														
Dunham--------------	0-11	5-15	50-68	27-35	1.10-1.30	0.6-2	0.21-0.23	3.0-5.9	4.0-6.0	.24	.24	4	6	48
	11-31	5-20	45-72	23-35	1.30-1.50	0.6-2	0.18-0.21	3.0-5.9	0.5-2.0	.37	.37			
	31-42	20-70	5-70	10-30	1.35-1.60	0.6-6	0.15-0.20	3.0-5.9	0.1-0.5	.32	.32			
	42-60	75-98	0-20	1-10	1.60-1.80	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
526A:														
Grundelein----------	0-13	0-15	58-80	18-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	4.0-5.0	.28	.28	4	6	48
	13-29	0-20	45-78	22-35	1.25-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	29-43	20-70	5-70	10-30	1.35-1.60	0.6-6	0.15-0.20	3.0-5.9	0.1-0.5	.32	.32			
	43-60	75-98	0-20	1-10	1.60-1.80	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			

Table 22.--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 Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
530B:														
Ozaukee-------------	0-4	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.32	.32	4	6	48
	4-10	5-15	58-80	15-27	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	0.2-1.0	.37	.37			
	10-21	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	21-39	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	39-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530C2:														
Ozaukee-------------	0-6	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.32	.32	4	6	48
	6-21	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	21-28	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	28-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530C3:														
Ozaukee-------------	0-9	5-15	45-68	27-40	1.45-1.60	0.2-0.6	0.10-0.21	3.0-5.9	0.5-1.0	.37	.37	3	6	48
	9-21	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	21-27	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	27-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530D2:														
Ozaukee-------------	0-6	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.32	.32	4	6	48
	6-20	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	20-28	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	28-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530D3:														
Ozaukee-------------	0-9	5-15	45-68	27-40	1.45-1.60	0.2-0.6	0.10-0.21	3.0-5.9	0.5-1.0	.37	.37	3	6	48
	9-21	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	21-25	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	25-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530E2:														
Ozaukee-------------	0-6	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.32	.32	4	6	48
	6-27	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	27-31	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	31-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530F:														
Ozaukee-------------	0-5	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.32	.32	4	6	48
	5-29	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	29-36	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	36-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			

Table 22.--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 Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
531B:														
Markham-------------	0-8	5-15	58-73	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.28	.28	4	6	48
	8-21	5-20	35-60	35-50	1.40-1.60	0.06-0.6	0.11-0.20	3.0-5.9	0.2-1.0	.37	.37			
	21-32	5-20	35-65	30-45	1.55-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	32-60	5-25	37-68	27-38	1.65-1.85	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
531C2:														
Markham-------------	0-8	5-15	58-73	20-27	1.10-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.28	.28	4	6	48
	8-20	5-20	35-60	35-50	1.40-1.60	0.06-0.6	0.11-0.20	3.0-5.9	0.2-1.0	.37	.37			
	20-29	5-20	35-65	30-45	1.55-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	29-60	5-25	37-68	27-38	1.65-1.85	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
570B:														
Martinsville--------	0-7	30-50	30-50	10-20	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	7-13	30-57	35-50	8-20	1.35-1.50	0.6-2	0.19-0.23	0.0-2.9	0.5-1.5	.37	.37			
	13-48	12-60	7-68	20-33	1.40-1.60	0.6-2	0.16-0.20	3.0-5.9	0.2-1.0	.32	.32			
	48-63	20-65	10-65	15-25	1.40-1.60	0.6-2	0.12-0.17	0.0-2.9	0.1-0.5	.28	.28			
	63-80	20-90	0-75	5-20	1.50-1.70	0.6-6	0.08-0.17	0.0-2.9	0.0-0.5	.24	.24			
570C2:														
Martinsville--------	0-6	30-50	30-50	10-20	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	6-9	30-57	35-50	8-20	1.35-1.50	0.6-2	0.19-0.23	0.0-2.9	0.5-1.5	.37	.37			
	9-35	12-60	7-68	20-33	1.40-1.60	0.6-2	0.16-0.20	3.0-5.9	0.2-1.0	.32	.32			
	35-54	20-65	10-65	15-25	1.40-1.60	0.6-2	0.12-0.17	0.0-2.9	0.1-0.5	.28	.28			
	54-80	20-90	0-75	5-20	1.50-1.70	0.6-6	0.08-0.17	0.0-2.9	0.0-0.5	.24	.24			
570D2:														
Martinsville--------	0-5	30-50	30-50	10-20	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	5-13	30-57	35-50	8-20	1.35-1.50	0.6-2	0.19-0.23	0.0-2.9	0.5-1.5	.37	.37			
	13-35	12-60	7-68	20-33	1.40-1.60	0.6-2	0.16-0.20	3.0-5.9	0.2-1.0	.32	.32			
	35-55	20-65	10-65	15-25	1.40-1.60	0.6-2	0.12-0.17	0.0-2.9	0.1-0.5	.28	.28			
	55-80	20-90	0-75	5-20	1.50-1.70	0.6-6	0.08-0.17	0.0-2.9	0.0-0.5	.24	.24			
570E2:														
Martinsville--------	0-4	30-50	30-50	10-20	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	4-13	30-57	35-50	8-20	1.35-1.50	0.6-2	0.19-0.23	0.0-2.9	0.5-1.5	.37	.37			
	13-47	12-60	7-68	20-33	1.40-1.60	0.6-2	0.16-0.20	3.0-5.9	0.2-1.0	.32	.32			
	47-60	20-65	10-65	15-25	1.40-1.60	0.6-2	0.12-0.17	0.0-2.9	0.1-0.5	.28	.28			
	60-80	20-90	0-75	5-20	1.50-1.70	0.6-6	0.08-0.17	0.0-2.9	0.0-0.5	.24	.24			

Table 22.--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 Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
570F:														
Martinsville--------	0-4	30-50	30-50	10-20	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	4-11	30-57	35-50	8-20	1.35-1.50	0.6-2	0.19-0.23	0.0-2.9	0.5-1.5	.37	.37			
	11-43	12-60	7-68	20-33	1.40-1.60	0.6-2	0.16-0.20	3.0-5.9	0.2-1.0	.32	.32			
	43-58	20-65	10-65	15-25	1.40-1.60	0.6-2	0.12-0.17	0.0-2.9	0.1-0.5	.28	.28			
	58-75	20-90	0-75	5-20	1.50-1.70	0.6-6	0.08-0.17	0.0-2.9	0.0-0.5	.24	.24			
594A:														
Reddick-------------	0-13	20-45	20-50	27-35	1.25-1.45	0.6-2	0.17-0.23	3.0-5.9	4.0-6.0	.17	.17	5	6	48
	13-32	15-50	20-55	22-35	1.45-1.65	0.6-2	0.15-0.20	3.0-5.9	0.5-2.0	.32	.32			
	32-47	5-20	40-65	30-45	1.50-1.70	0.2-0.6	0.12-0.18	3.0-5.9	0.2-1.0	.37	.37			
	47-60	5-20	40-65	25-43	1.60-1.80	0.06-0.2	0.07-0.15	3.0-5.9	0.0-0.5	.43	.43			
610A:														
Tallmadge-----------	0-8	50-75	7-40	10-20	1.45-1.70	2-6	0.16-0.18	0.0-2.9	3.0-5.0	.17	.17	4	3	86
	8-17	20-65	5-50	15-32	1.40-1.60	0.6-2	0.17-0.22	3.0-5.9	2.0-4.0	.24	.24			
	17-33	20-65	5-50	25-35	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.5-1.5	.32	.32			
	33-43	20-75	1-50	3-30	1.45-1.60	0.6-2	0.14-0.19	0.0-2.9	0.0-0.5	.20	.24			
	43-60	---	---	---	---	2-20	---	---	---	---	---			
664A:														
Rensselaer----------	0-7	50-75	7-40	10-20	1.45-1.70	2-6	0.16-0.18	0.0-2.9	3.0-5.0	.17	.17	5	3	86
	7-15	20-45	23-53	27-32	1.40-1.60	0.6-2	0.17-0.19	3.0-5.9	2.5-5.0	.17	.17			
	15-40	15-50	20-55	22-35	1.45-1.65	0.6-2	0.15-0.20	3.0-5.9	0.5-2.0	.32	.32			
	40-80	30-90	0-63	7-18	1.60-1.90	2-6	0.07-0.19	0.0-2.9	0.0-1.0	.24	.24			
688B:														
Braidwood-----------	0-9	25-50	28-50	18-27	1.30-1.60	0.6-2	0.17-0.20	0.0-2.9	0.5-4.0	.32	.32	5	4L	86
	9-22	20-50	28-62	18-27	1.40-1.70	0.6-2	0.15-0.18	0.0-2.9	0.2-1.0	.43	.43			
	22-42	20-70	10-65	5-27	1.70-2.00	0.6-2	0.09-0.16	0.0-2.9	0.2-1.0	.43	.43			
	42-64	20-90	5-65	3-27	1.80-2.10	0.2-0.6	0.06-0.12	0.0-2.9	0.2-1.0	.43	.43			
688D:														
Braidwood-----------	0-8	25-50	28-50	18-27	1.30-1.60	0.6-2	0.17-0.20	0.0-2.9	0.5-4.0	.32	.32	5	4L	86
	8-16	20-50	28-62	18-27	1.40-1.70	0.6-2	0.15-0.18	0.0-2.9	0.2-1.0	.43	.43			
	16-42	20-70	10-65	5-27	1.70-2.00	0.6-2	0.09-0.16	0.0-2.9	0.2-1.0	.43	.43			
	42-65	20-90	5-65	3-27	1.80-2.10	0.2-0.6	0.06-0.12	0.0-2.9	0.2-1.0	.43	.43			
688G:														
Braidwood-----------	0-6	25-50	28-50	18-27	1.30-1.60	0.6-2	0.17-0.20	0.0-2.9	0.5-4.0	.32	.32	5	4L	86
	6-15	20-50	28-62	18-27	1.40-1.70	0.6-2	0.15-0.18	0.0-2.9	0.2-1.0	.43	.43			
	15-37	20-70	10-65	5-27	1.70-2.00	0.6-2	0.09-0.16	0.0-2.9	0.2-1.0	.43	.43			
	37-65	20-90	5-65	3-27	1.80-2.10	0.2-0.6	0.06-0.12	0.0-2.9	0.2-1.0	.43	.43			

Table 22.--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 Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
719A:														
Symerton------------	0-13	50-75	7-42	8-18	1.30-1.65	0.6-6	0.14-0.18	0.0-2.9	1.5-3.5	.17	.17	5	3	86
	13-32	25-50	15-50	24-35	1.45-1.70	0.6-2	0.10-0.15	3.0-5.9	0.1-1.0	.32	.32			
	32-44	2-20	45-74	24-35	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	44-60	2-20	48-78	20-32	1.60-1.80	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
719B:														
Symerton------------	0-17	50-75	7-42	8-18	1.30-1.65	0.6-6	0.14-0.18	0.0-2.9	1.5-3.5	.17	.17	5	3	86
	17-31	25-50	15-50	24-35	1.45-1.70	0.6-2	0.10-0.15	3.0-5.9	0.1-1.0	.32	.32			
	31-39	2-20	45-74	24-35	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	39-60	2-20	48-78	20-32	1.60-1.80	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
719C2:														
Symerton------------	0-9	50-75	7-42	8-18	1.30-1.65	0.6-6	0.14-0.18	0.0-2.9	1.0-3.0	.17	.17	5	3	86
	9-22	25-50	15-50	24-35	1.45-1.70	0.6-2	0.10-0.15	3.0-5.9	0.1-1.0	.32	.32			
	22-31	2-20	45-74	24-35	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	31-60	2-20	48-78	20-32	1.60-1.80	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
740A:														
Darroch-------------	0-15	10-30	50-75	12-26	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	2.5-4.0	.24	.24	5	5	56
	15-21	10-45	25-70	18-35	1.45-1.60	0.6-2	0.18-0.22	3.0-5.9	0.5-1.5	.32	.32			
	21-29	25-65	10-50	18-35	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.2-1.0	.32	.32			
	29-60	15-60	20-75	5-20	1.50-1.70	0.6-6	0.11-0.21	0.0-2.9	0.0-0.5	.28	.28			
741B:														
Oakville------------	0-7	85-100	0-15	0-10	1.30-1.55	6-20	0.07-0.09	0.0-2.9	0.5-2.0	.02	.02	5	1	220
	7-40	75-100	0-25	0-10	1.35-1.65	6-20	0.06-0.11	0.0-2.9	0.1-0.5	.15	.15			
	40-60	75-100	0-25	0-10	1.40-1.65	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
741D:														
Oakville------------	0-6	85-100	0-15	0-10	1.30-1.55	6-20	0.07-0.09	0.0-2.9	0.5-2.0	.02	.02	5	1	220
	6-30	75-100	0-25	0-10	1.35-1.65	6-20	0.06-0.11	0.0-2.9	0.1-0.5	.15	.15			
	30-60	75-100	0-25	0-10	1.40-1.65	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
741E:														
Oakville------------	0-5	85-100	0-15	0-10	1.30-1.55	6-20	0.07-0.09	0.0-2.9	0.5-2.0	.02	.02	5	1	220
	5-29	75-100	0-25	0-10	1.35-1.65	6-20	0.06-0.11	0.0-2.9	0.1-0.5	.15	.15			
	29-60	75-100	0-25	0-10	1.40-1.65	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			
741F:														
Oakville------------	0-5	85-100	0-15	0-10	1.30-1.55	6-20	0.07-0.09	0.0-2.9	0.5-2.0	.02	.02	5	1	220
	5-32	75-100	0-25	0-10	1.35-1.65	6-20	0.06-0.11	0.0-2.9	0.1-0.5	.15	.15			
	32-60	75-100	0-25	0-10	1.40-1.65	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.15	.15			

Table 22.--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 Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
777A:														
Adrian--------------	0-7	---	---	---	0.20-0.35	0.2-6	0.35-0.45	---	70-99	---	---	2	2	134
	7-40	---	---	---	0.15-0.25	0.2-6	0.35-0.45	---	70-99	---	---			
	40-60	75-98	0-20	0-10	1.50-1.70	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.05	.05			
779B:														
Chelsea-------------	0-5	72-90	0-26	2-13	1.35-1.55	6-20	0.10-0.12	0.0-2.9	0.5-1.5	.02	.02	5	2	134
	5-11	70-90	0-28	1-10	1.40-1.60	6-20	0.08-0.11	0.0-2.9	0.1-1.0	.10	.10			
	11-33	70-95	0-28	1-10	1.45-1.65	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.10	.10			
	33-80	65-95	0-32	1-10	1.45-1.65	2-6	0.10-0.15	0.0-2.9	0.0-0.3	.20	.20			
802B:														
Orthents, loamy-----	0-6	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	5	4L	86
	6-60	20-52	25-58	22-30	1.70-1.80	0.2-0.6	0.12-0.20	3.0-5.9	0.2-1.0	.43	.43			
802F:														
Orthents, loamy-----	0-6	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	5	4L	86
	6-60	20-50	25-58	22-30	1.70-1.80	0.2-0.6	0.12-0.20	3.0-5.9	0.2-1.0	.43	.43			
805B:														
Orthents, clayey----	0-6	2-20	40-58	40-55	1.50-1.65	0.02-0.06	0.08-0.14	6.0-8.9	0.5-2.0	.43	.43	5	4	86
	6-60	2-30	10-60	35-60	1.60-1.90	0.02-0.06	0.03-0.10	6.0-8.9	0.2-1.0	.43	.43			
830.														
Landfills														
864, 865.														
Pits														
3082A:														
Millington----------	0-26	5-30	50-75	20-27	1.35-1.55	0.6-2	0.20-0.24	0.0-2.9	4.0-6.0	.32	.32	5	4L	86
	26-36	10-40	30-70	20-35	1.40-1.60	0.6-2	0.17-0.20	3.0-5.9	1.0-3.0	.32	.32			
	36-62	15-60	5-67	18-35	1.50-1.70	0.6-2	0.14-0.20	3.0-5.9	0.1-2.0	.28	.28			
3107A:														
Sawmill-------------	0-29	3-15	58-70	27-35	1.25-1.40	0.6-2	0.19-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
	29-48	5-20	45-68	27-35	1.30-1.45	0.6-2	0.17-0.20	3.0-5.9	1.0-3.5	.32	.32			
	48-60	5-25	40-70	25-35	1.35-1.50	0.6-2	0.17-0.20	3.0-5.9	0.2-2.0	.32	.32			
3302A:														
Ambraw--------------	0-11	50-75	7-35	10-18	1.45-1.65	0.6-2	0.16-0.18	0.0-2.9	3.0-5.0	.20	.20	5	3	86
	11-44	20-52	25-52	18-32	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
	44-52	25-70	5-55	10-30	1.50-1.70	0.6-2	0.15-0.19	3.0-5.9	0.0-1.0	.32	.32			
	52-70	30-90	0-55	7-18	1.60-1.90	2-6	0.07-0.19	0.0-2.9	0.0-1.0	.24	.24			

Table 22.--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					
8302A:														
Ambraw--------------	0-16	25-50	30-50	10-25	1.45-1.65	0.6-2	0.18-0.22	0.0-2.9	3.0-5.0	.32	.32	5	5	56
	16-44	20-52	25-52	18-32	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
	44-52	25-70	5-55	10-30	1.50-1.70	0.6-2	0.15-0.19	3.0-5.9	0.0-1.0	.32	.32			
	52-70	30-90	0-55	7-18	1.60-1.90	2-6	0.07-0.19	0.0-2.9	0.0-1.0	.24	.24			
8451A:														
Lawson--------------	0-14	0-15	58-88	12-27	1.20-1.50	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.32	.32	5	5	56
	14-33	0-15	55-85	15-30	1.20-1.50	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	1.45-1.65	0.6-2	0.18-0.20	3.0-5.9	0.2-2.0	.49	.49			

Table 23.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
49A:					
Watseka---------	0-10	5.6-7.3	1.0-2.5	3-13	0
	10-32	5.1-7.3	0.0-0.5	1-7	0
	32-60	5.6-7.3	0.0-0.5	1-7	0
69A:					
Milford---------	0-18	5.6-7.3	4.0-6.0	26-36	0
	18-50	5.6-7.8	0.5-2.0	22-29	0-10
	50-60	6.6-8.4	0.0-1.0	4-18	0-30
88B:					
Sparta----------	0-13	5.1-7.3	1.0-2.0	2-12	0
	13-71	5.1-7.3	0.0-0.5	1-6	0
	71-80	5.1-7.8	0.0-0.5	1-9	0
91A:					
Swygert---------	0-12	5.6-7.3	3.0-5.0	20-31	0
	12-26	5.6-7.3	0.5-1.5	20-31	0
	26-51	7.4-8.4	0.1-1.0	10-25	2-20
	51-60	7.9-8.4	0.0-0.5	9-20	15-30
91B2:					
Swygert---------	0-7	5.6-7.3	2.0-4.0	20-31	0
	7-30	5.6-7.3	0.5-1.5	20-31	0
	30-48	7.4-8.4	0.1-1.0	10-25	2-20
	48-60	7.9-8.4	0.0-0.5	9-20	15-30
98B:					
Ade-------------	0-22	5.1-6.5	1.0-2.0	3-12	0
	22-29	5.1-6.0	0.2-1.0	2-10	0
	29-60	5.6-7.3	0.2-0.5	2-11	0
	60-80	6.1-7.8	0.0-0.5	1-6	0-10
102A:					
La Hogue--------	0-16	5.6-7.3	3.0-4.0	15-24	0
	16-32	5.1-7.3	0.5-2.0	13-25	0
	32-48	5.6-7.3	0.2-1.0	6-15	0
	48-60	6.1-7.8	0.0-0.5	3-13	0-10
103A:					
Houghton--------	0-19	4.5-7.8	70-99	140-200	0
	19-60	4.5-7.8	70-99	100-200	0
125A:					
Selma-----------	0-6	6.1-7.8	4.0-6.0	20-28	0
	6-13	6.1-7.8	3.0-5.0	22-31	0
	13-44	6.1-8.4	0.0-2.0	11-23	0-20
	44-80	6.6-8.4	0.0-1.0	7-20	0-20
131B:					
Alvin-----------	0-8	4.5-7.3	0.5-1.5	7-11	0
	8-11	4.5-7.3	0.0-0.5	6-10	0
	11-25	4.5-7.3	0.0-0.5	9-12	0
	25-80	5.1-8.4	0.0-0.3	2-7	0-25

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
146A:					
Elliott---------	0-6	5.6-7.3	3.5-5.0	16-32	0
	6-11	5.6-7.3	2.5-4.0	27-40	0
	11-16	6.1-7.3	0.5-1.5	17-38	0
	16-41	6.6-7.8	0.1-0.5	13-24	0-15
	41-60	7.4-8.4	0.0-0.5	11-22	10-35
146B:					
Elliott---------	0-9	5.6-7.3	3.5-5.0	16-32	0
	9-13	5.6-7.3	2.5-4.0	27-40	0
	13-17	6.1-7.3	0.5-1.5	15-36	0
	17-35	6.6-7.8	0.1-0.5	13-24	0-15
	35-60	7.4-8.4	0.0-0.5	11-22	10-35
146B2:					
Elliott---------	0-8	5.6-7.3	2.5-4.0	27-40	0
	8-14	6.1-7.3	0.5-1.5	15-36	0
	14-27	6.6-7.8	0.1-0.5	13-24	0-15
	27-60	7.4-8.4	0.0-0.5	11-22	10-35
149A:					
Brenton---------	0-12	5.6-7.3	3.0-5.0	18-26	0
	12-28	5.6-7.3	0.5-1.5	15-23	0
	28-44	5.6-7.8	0.0-0.5	12-19	0-5
	44-60	6.6-8.4	0.0-0.5	3-19	0-20
150A:					
Onarga----------	0-17	5.1-7.3	1.0-3.0	7-15	0
	17-35	4.5-7.3	0.2-1.0	7-13	0
	35-80	5.6-7.3	0.0-0.5	1-7	0
150B:					
Onarga----------	0-13	5.1-7.3	1.0-3.0	7-15	0
	13-29	4.5-7.3	0.2-1.0	7-13	0
	29-60	5.6-7.3	0.0-0.5	1-7	0
151A:					
Ridgeville------	0-16	5.6-7.3	2.0-4.0	10-17	0
	16-40	5.6-6.5	0.2-1.0	7-13	0
	40-60	6.1-7.3	0.0-0.5	2-7	0
153A:					
Pella-----------	0-12	6.1-7.8	4.0-6.0	24-33	0
	12-33	6.6-7.8	0.5-2.0	17-23	0-10
	33-42	7.4-8.4	0.2-0.5	9-19	5-30
	42-60	7.8-8.4	0.0-0.2	6-18	5-40
188A:					
Beardstown------	0-8	5.6-7.3	2.0-4.0	13-24	0
	8-16	5.1-6.0	0.5-1.0	9-18	0
	16-51	5.6-7.3	0.0-1.0	11-20	0
	51-62	5.6-7.3	0.0-0.5	3-10	0
189A:					
Martinton-------	0-12	5.6-7.3	4.0-5.0	18-24	0
	12-39	5.6-7.8	0.5-2.0	18-24	0-10
	39-60	7.4-8.4	0.0-0.5	7-22	5-30
201A:					
Gilford---------	0-22	5.6-7.3	3.0-5.0	12-21	0
	22-41	5.6-7.3	0.2-1.5	5-14	0
	41-60	6.6-8.4	0.0-0.5	1-6	0-30

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
210A:					
Lena------------	0-8	7.4-8.4	60-99	140-180	5-40
	8-60	7.4-8.4	60-99	100-180	5-40
223B:					
Varna-----------	0-12	5.6-7.3	2.5-4.0	15-22	0
	12-30	5.6-7.3	0.5-1.5	18-28	0
	30-48	7.4-8.4	0.2-1.0	15-25	0-15
	48-60	7.9-8.4	0.0-0.5	13-21	5-30
223B2:					
Varna-----------	0-12	5.6-7.3	2.0-3.0	14-20	0
	12-27	5.6-7.3	0.5-1.5	18-28	0
	27-39	7.4-8.4	0.2-1.0	15-25	0-15
	39-60	7.9-8.4	0.0-0.5	13-21	5-30
223C2:					
Varna-----------	0-9	5.6-7.3	2.0-3.0	14-20	0
	9-29	5.6-7.3	0.5-1.5	18-28	0
	29-50	7.4-8.4	0.2-1.0	15-25	0-15
	50-60	7.9-8.4	0.0-0.5	13-21	5-30
223C3:					
Varna-----------	0-6	5.6-7.3	0.5-2.0	14-22	0
	6-16	5.6-7.3	0.5-1.5	18-28	0
	16-19	7.4-8.4	0.2-1.0	15-25	0-15
	19-60	7.9-8.4	0.0-0.5	13-21	5-30
232A:					
Ashkum----------	0-12	5.6-7.3	3.0-7.0	22-38	0
	12-29	6.1-7.3	0.5-2.5	22-39	0-5
	29-54	6.6-7.8	0.1-0.5	13-24	0-15
	54-60	7.4-8.4	0.0-0.5	11-22	10-25
235A:					
Bryce-----------	0-13	5.6-7.8	4.0-7.0	30-42	0
	13-45	6.1-7.8	0.5-3.0	23-33	0-5
	45-58	7.4-8.4	0.1-0.5	21-33	0-15
	58-66	7.4-8.4	0.0-0.5	12-34	10-25
240A:					
Plattville------	0-14	5.6-7.3	3.0-5.0	15-23	0
	14-39	5.6-7.8	0.5-1.5	13-20	0
	39-44	6.6-8.4	0.0-0.5	12-21	0-10
	44-60	---	---	---	---
241C3:					
Chatsworth------	0-5	6.1-8.4	0.5-1.0	25-32	0-20
	5-16	6.6-8.4	0.0-0.5	21-31	0-25
	16-60	7.4-8.4	0.0-0.5	21-31	5-30
293A:					
Andres----------	0-11	5.6-7.3	3.5-5.0	10-22	0
	11-26	6.1-7.8	0.5-1.5	11-22	0-5
	26-50	6.6-8.4	0.1-0.5	13-24	0-15
	50-60	7.4-8.4	0.0-0.5	11-22	15-30
293B:					
Andres----------	0-10	5.6-7.3	3.5-5.0	10-22	0
	10-36	6.1-7.8	0.5-1.5	11-22	0-5
	36-47	6.6-8.4	0.1-0.5	13-24	0-15
	47-60	7.4-8.4	0.0-0.5	11-22	15-30

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
294A:					
Symerton--------	0-12	5.6-7.3	2.5-4.0	10-22	0
	12-18	5.6-7.3	0.5-2.0	14-25	0
	18-41	5.6-7.8	0.1-1.0	8-22	0-5
	41-50	7.4-8.4	0.1-0.5	9-23	0-15
	50-60	7.4-8.4	0.0-0.5	9-23	5-30
294B:					
Symerton--------	0-15	5.6-7.3	2.5-4.0	10-22	0
	15-19	5.6-7.3	1.0-3.0	15-27	0
	19-35	5.6-7.8	0.1-1.0	8-22	0-5
	35-39	7.4-8.4	0.1-0.5	9-23	0-15
	39-60	7.4-8.4	0.0-0.5	9-23	5-30
295A:					
Mokena----------	0-5	5.6-7.3	3.5-5.0	15-24	0
	5-15	5.6-7.3	3.0-4.0	13-21	0
	15-38	6.1-7.8	0.5-1.5	13-22	0
	38-42	6.1-8.4	0.1-0.5	20-31	0-15
	42-60	7.4-8.4	0.0-0.5	20-31	5-30
298A:					
Beecher---------	0-9	5.1-7.3	2.0-4.0	17-24	0
	9-21	4.5-7.3	0.2-1.0	15-33	0
	21-37	6.1-7.8	0.1-0.5	13-24	0-15
	37-60	7.4-8.4	0.0-0.5	11-22	10-35
298B:					
Beecher---------	0-7	5.1-7.3	2.0-4.0	17-24	0
	7-24	4.5-7.3	0.2-1.0	15-33	0
	24-36	6.1-7.8	0.1-0.5	13-24	0-15
	36-60	7.4-8.4	0.0-0.5	11-22	10-35
311B:					
Ritchey---------	0-5	5.6-7.8	1.0-3.0	12-22	0
	5-9	5.6-7.8	0.5-1.5	10-16	0
	9-17	6.6-8.4	0.2-1.0	15-23	0-20
	17-60	---	---	---	---
311C:					
Ritchey---------	0-6	5.6-7.8	1.0-3.0	12-22	0
	6-10	5.6-7.8	0.5-1.5	10-16	0
	10-19	6.6-8.4	0.2-1.0	15-23	0-20
	19-60	---	---	---	---
311D:					
Ritchey---------	0-4	5.6-7.8	1.0-3.0	12-22	0
	4-8	5.6-7.8	0.5-1.5	10-16	0
	8-16	6.6-8.4	0.2-1.0	15-23	0-20
	16-60	---	---	---	---
315A:					
Channahon-------	0-8	6.1-8.4	2.0-4.0	16-24	0-15
	8-16	6.1-8.4	0.0-1.5	15-24	0-20
	16-60	---	---	---	---
315B:					
Channahon-------	0-11	6.1-8.4	2.0-4.0	16-24	0-15
	11-18	6.1-8.4	0.0-1.5	15-24	0-20
	18-60	---	---	---	---

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
315C2:					
Channahon-------	0-6	6.1-8.4	2.0-3.0	16-22	0-15
	6-13	6.1-8.4	0.0-1.5	15-24	0-20
	13-60	---	---	---	---
330A:					
Peotone---------	0-13	5.6-7.8	5.0-7.0	30-38	0
	13-50	6.1-7.8	0.5-3.0	22-33	0
	50-60	6.6-8.4	0.2-0.5	15-26	0-15
369A:					
Waupecan--------	0-14	6.1-7.3	3.0-5.0	17-26	0
	14-35	5.6-7.3	0.5-1.0	16-23	0
	35-49	5.6-7.8	0.2-0.5	6-16	0-10
	49-67	7.4-8.4	0.0-0.5	0-8	0-30
369B:					
Waupecan--------	0-11	6.1-7.3	3.0-5.0	17-26	0
	11-39	5.6-7.3	0.5-1.0	16-23	0
	39-45	5.6-7.8	0.2-0.5	6-16	0-10
	45-60	7.4-8.4	0.0-0.5	0-8	0-30
380A:					
Fieldon---------	0-15	7.4-8.4	3.0-6.0	15-25	5-25
	15-36	7.4-8.4	0.2-2.0	6-15	5-25
	36-60	7.4-8.4	0.0-0.5	3-10	5-25
403E:					
Elizabeth-------	0-5	6.1-8.4	2.5-5.0	15-26	0-5
	5-13	6.1-8.4	1.0-3.0	12-27	0-20
	13-16	6.1-8.4	1.0-2.0	12-25	0-40
	16-60	---	---	---	---
403F:					
Elizabeth-------	0-6	6.1-8.4	2.5-5.0	15-26	0-5
	6-11	6.1-8.4	1.0-3.0	12-27	0-20
	11-14	6.1-8.4	1.0-2.0	12-25	0-40
	14-60	---	---	---	---
440A:					
Jasper----------	0-11	5.6-7.3	3.0-5.0	13-25	0
	11-30	5.1-7.3	0.5-1.5	13-22	0
	30-47	5.6-7.8	0.0-0.5	7-19	0-5
	47-60	6.1-8.4	0.0-0.5	3-13	0-25
440B:					
Jasper----------	0-12	5.6-7.3	3.0-5.0	13-25	0
	12-26	5.1-7.3	0.5-1.5	13-22	0
	26-50	5.6-7.8	0.0-0.5	7-19	0-5
	50-60	6.1-8.4	0.0-0.5	3-13	0-25
440C2:					
Jasper----------	0-8	5.6-7.3	3.0-4.0	13-23	0
	8-23	5.1-7.3	0.5-1.5	13-22	0
	23-42	5.6-7.8	0.0-0.5	7-19	0-5
	42-60	6.1-8.4	0.0-0.5	3-13	0-25
493A:					
Bonfield--------	0-14	5.6-7.3	2.0-4.0	10-20	0
	14-20	5.6-7.8	0.2-1.0	11-23	0
	20-26	6.1-7.8	0.1-0.5	6-16	0-10
	26-60	7.4-8.4	0.0-0.5	3-13	0-20

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
494A:					
Kankakee--------	0-14	5.6-7.3	2.0-4.0	10-20	0
	14-22	5.6-7.8	0.2-1.0	11-23	0
	22-27	6.1-7.8	0.1-0.5	6-16	0-10
	27-60	7.4-8.4	0.0-0.5	3-13	0-20
494B:					
Kankakee--------	0-11	5.6-7.3	2.0-4.0	10-20	0
	11-14	5.6-7.8	0.2-1.0	11-23	0
	14-21	6.1-7.8	0.1-0.5	6-16	0-10
	21-60	7.4-8.4	0.0-0.5	3-13	0-20
501A:					
Morocco---------	0-10	4.5-7.3	0.5-1.5	2-10	0
	10-14	4.5-7.3	0.1-1.0	1-7	0
	14-37	4.5-6.0	0.0-0.5	1-7	0
	37-80	4.5-6.0	0.0-0.5	1-7	0
503A:					
Rockton---------	0-17	5.6-7.3	3.0-5.0	16-25	0
	17-28	5.6-7.8	0.5-1.5	17-24	0
	28-34	5.6-7.8	0.0-0.5	20-38	0-5
	34-60	---	---	---	---
503B:					
Rockton---------	0-11	5.6-7.3	3.0-5.0	16-25	0
	11-27	5.6-7.8	0.5-1.5	17-24	0
	27-31	5.6-7.8	0.0-0.5	20-38	0-5
	31-60	---	---	---	---
509A:					
Whalan----------	0-5	5.6-7.3	1.0-3.0	12-21	0
	5-11	5.6-7.3	0.2-1.0	11-18	0
	11-16	5.6-7.3	0.2-0.5	16-22	0
	16-25	5.6-7.8	0.0-0.5	16-22	0
	25-30	5.6-7.8	0.0-0.5	20-38	0-5
	30-60	---	---	---	---
509B:					
Whalan----------	0-5	5.6-7.3	1.0-3.0	12-21	0
	5-11	5.6-7.3	0.2-1.0	11-18	0
	11-15	5.6-7.3	0.2-0.5	16-22	0
	15-27	5.6-7.8	0.0-0.5	16-22	0
	27-32	5.6-7.8	0.0-0.5	20-38	0-5
	32-60	---	---	---	---
513A:					
Granby----------	0-8	5.6-7.3	3.0-5.0	6-20	0
	8-17	5.6-7.3	0.5-2.0	1-12	0
	17-30	5.6-7.8	0.2-1.5	0-11	0
	30-80	6.1-8.4	0.0-0.5	0-7	0-10
516A:					
Faxon-----------	0-5	6.6-7.8	4.0-6.0	18-27	0
	5-13	6.6-7.8	2.0-4.0	17-27	0
	13-25	6.6-7.8	0.2-1.5	15-24	0
	25-60	---	---	---	---
523A:					
Dunham----------	0-11	5.6-7.3	4.0-6.0	25-34	0
	11-31	5.6-7.3	0.5-2.0	16-26	0
	31-42	6.1-7.8	0.1-0.5	6-19	0-20
	42-60	7.4-8.4	0.0-0.5	1-7	15-40

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
526A:					
Grundelein------	0-13	5.6-7.3	4.0-5.0	19-30	0
	13-29	5.6-7.3	0.5-2.0	16-26	0
	29-43	6.1-7.8	0.1-0.5	6-19	0-20
	43-60	7.4-8.4	0.0-0.5	1-7	15-40
530B:					
Ozaukee---------	0-4	6.1-7.3	1.0-3.0	9-20	0
	4-10	6.1-7.3	0.2-1.0	7-16	0
	10-21	6.1-7.3	0.2-0.5	20-26	0
	21-39	7.4-8.4	0.1-0.5	15-22	0-20
	39-60	7.9-8.4	0.0-0.5	13-19	10-40
530C2:					
Ozaukee---------	0-6	6.1-7.3	1.0-2.0	9-18	0
	6-21	6.1-7.3	0.2-0.5	20-26	0
	21-28	7.4-8.4	0.1-0.5	15-22	0-20
	28-60	7.9-8.4	0.0-0.5	13-19	10-40
530C3:					
Ozaukee---------	0-9	6.1-7.3	0.5-1.0	14-22	0
	9-21	6.1-7.3	0.2-0.5	20-26	0
	21-27	7.4-8.4	0.1-0.5	15-22	0-20
	27-60	7.9-8.4	0.0-0.5	13-19	10-40
530D2:					
Ozaukee---------	0-6	6.1-7.3	1.0-2.0	9-18	0
	6-20	6.1-7.3	0.2-0.5	20-26	0
	20-28	7.4-8.4	0.1-0.5	15-22	0-20
	28-60	7.9-8.4	0.0-0.5	13-19	10-40
530D3:					
Ozaukee---------	0-9	6.1-7.3	0.5-1.0	14-22	0
	9-21	6.1-7.3	0.2-0.5	20-26	0
	21-25	7.4-8.4	0.1-0.5	15-22	0-20
	25-60	7.9-8.4	0.0-0.5	13-19	10-40
530E2:					
Ozaukee---------	0-6	6.1-7.3	1.0-2.0	9-18	0
	6-27	6.1-7.3	0.2-0.5	20-26	0
	27-31	7.4-8.4	0.1-0.5	15-22	0-20
	31-60	7.9-8.4	0.0-0.5	13-19	10-40
530F:					
Ozaukee---------	0-5	6.1-7.3	1.0-3.0	9-20	0
	5-29	6.1-7.3	0.2-0.5	20-26	0
	29-36	7.4-8.4	0.1-0.5	15-22	0-20
	36-60	7.9-8.4	0.0-0.5	13-19	10-40
531B:					
Markham---------	0-8	5.6-7.3	2.0-4.0	14-22	0
	8-21	5.1-7.3	0.2-1.0	17-27	0
	21-32	7.4-8.4	0.1-0.5	15-24	0-10
	32-60	7.9-8.4	0.0-0.5	13-20	5-30
531C2:					
Markham---------	0-8	5.6-7.3	2.0-3.0	14-20	0
	8-20	5.1-7.3	0.2-1.0	17-27	0
	20-29	7.4-8.4	0.1-0.5	15-24	0-10
	29-60	7.9-8.4	0.0-0.5	13-20	5-30

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
570B:					
Martinsville----	0-7	5.1-7.3	1.0-3.0	7-16	0
	7-13	5.1-7.3	0.5-1.5	4-13	0
	13-48	5.1-7.3	0.2-1.0	10-19	0
	48-63	5.1-7.3	0.1-0.5	7-14	0
	63-80	5.6-7.8	0.0-0.5	2-11	0-25
570C2:					
Martinsville----	0-6	5.1-7.3	1.0-2.0	7-14	0
	6-9	5.1-7.3	0.5-1.5	4-13	0
	9-35	5.1-7.3	0.2-1.0	10-19	0
	35-54	5.1-7.3	0.1-0.5	7-14	0
	54-80	5.6-7.8	0.0-0.5	2-11	0-25
570D2:					
Martinsville----	0-5	5.1-7.3	1.0-2.0	7-14	0
	5-13	5.1-7.3	0.5-1.5	4-13	0
	13-35	5.1-7.3	0.2-1.0	10-19	0
	35-55	5.1-7.3	0.1-0.5	7-14	0
	55-80	5.6-7.8	0.0-0.5	2-11	0-25
570E2:					
Martinsville----	0-4	5.1-7.3	1.0-2.0	7-14	0
	4-13	5.1-7.3	0.5-1.5	4-13	0
	13-47	5.1-7.3	0.2-1.0	10-19	0
	47-60	5.1-7.3	0.1-0.5	7-14	0
	60-80	5.6-7.8	0.0-0.5	2-11	0-25
570F:					
Martinsville----	0-4	5.1-7.3	1.0-3.0	7-16	0
	4-11	5.1-7.3	0.5-1.5	4-13	0
	11-43	5.1-7.3	0.2-1.0	10-19	0
	43-58	5.1-7.3	0.1-0.5	7-14	0
	58-75	5.6-7.8	0.0-0.5	2-11	0-25
594A:					
Reddick---------	0-13	6.1-7.8	4.0-6.0	24-33	0
	13-32	6.1-7.8	0.5-2.0	14-25	0
	32-47	6.6-8.4	0.2-1.0	15-27	15-30
	47-60	7.4-8.4	0.0-0.5	18-29	0-15
610A:					
Tallmadge-------	0-8	6.1-7.3	3.0-5.0	12-23	0
	8-17	6.1-7.3	2.0-4.0	17-27	0
	17-33	6.6-7.8	0.5-1.5	13-20	0
	33-43	6.6-8.4	0.0-0.5	5-18	0-20
	43-60	---	---	---	---
664A:					
Rensselaer------	0-7	6.1-7.3	3.0-5.0	12-23	0
	7-15	6.1-7.3	2.5-5.0	21-30	0
	15-40	6.1-7.8	0.5-2.0	14-25	0-10
	40-80	7.4-8.4	0.0-1.0	7-20	0-25
688B:					
Braidwood-------	0-9	7.4-8.4	0.5-4.0	4-8	0-25
	9-22	7.4-8.4	0.2-1.0	3-6	5-35
	22-42	7.4-8.4	0.2-1.0	1-5	5-35
	42-64	7.4-8.4	0.2-1.0	0-5	5-35

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
688D:					
Braidwood-------	0-8	7.4-8.4	0.5-4.0	4-8	0-25
	8-16	7.4-8.4	0.2-1.0	3-6	5-35
	16-42	7.4-8.4	0.2-1.0	1-5	5-35
	42-65	7.4-8.4	0.2-1.0	0-5	5-35
688G:					
Braidwood-------	0-6	7.4-8.4	0.5-4.0	4-8	0-25
	6-15	7.4-8.4	0.2-1.0	3-6	5-35
	15-37	7.4-8.4	0.2-1.0	1-5	5-35
	37-65	7.4-8.4	0.2-1.0	0-5	5-35
719A:					
Symerton--------	0-13	5.6-7.3	1.5-3.5	8-16	0
	13-32	5.6-7.8	0.1-1.0	8-22	0-5
	32-44	7.4-8.4	0.1-0.5	9-23	0-15
	44-60	7.4-8.4	0.0-0.5	9-23	5-30
719B:					
Symerton--------	0-17	5.6-7.3	1.5-3.5	8-16	0
	17-31	5.6-7.8	0.1-1.0	8-22	0-5
	31-39	7.4-8.4	0.1-0.5	9-23	0-15
	39-60	7.4-8.4	0.0-0.5	9-23	5-30
719C2:					
Symerton--------	0-9	5.6-7.3	1.0-3.0	7-15	0
	9-22	5.6-7.8	0.1-1.0	8-22	0-5
	22-31	7.4-8.4	0.1-0.5	9-23	0-15
	31-60	7.4-8.4	0.0-0.5	9-23	5-30
740A:					
Darroch---------	0-15	5.6-7.3	2.5-4.0	12-24	0
	15-21	5.6-7.3	0.5-1.5	11-24	0
	21-29	5.6-7.3	0.2-1.0	11-23	0
	29-60	7.4-8.4	0.0-0.5	3-13	10-40
741B:					
Oakville--------	0-7	4.5-7.3	0.5-2.0	1-4	0
	7-40	4.5-7.3	0.1-0.5	0-2	0
	40-60	4.5-7.3	0.0-0.5	0-2	0
741D:					
Oakville--------	0-6	4.5-7.3	0.5-2.0	1-4	0
	6-30	4.5-7.3	0.1-0.5	0-2	0
	30-60	4.5-7.3	0.0-0.5	0-2	0
741E:					
Oakville--------	0-5	4.5-7.3	0.5-2.0	1-4	0
	5-29	4.5-7.3	0.1-0.5	0-2	0
	29-60	4.5-7.3	0.0-0.5	0-2	0
741F:					
Oakville--------	0-5	4.5-7.3	0.5-2.0	1-4	0
	5-32	4.5-7.3	0.1-0.5	0-2	0
	32-60	4.5-7.3	0.0-0.5	0-2	0
777A:					
Adrian----------	0-7	5.1-7.3	70-99	140-200	0
	7-40	5.1-7.3	70-99	100-200	0
	40-60	6.1-8.4	0.0-0.5	0-7	0-10

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
779B:					
Chelsea----------	0-5	5.1-7.3	0.5-1.5	2-10	0
	5-11	5.1-7.3	0.1-1.0	1-7	0
	11-33	5.1-6.0	0.0-0.5	1-7	0
	33-80	5.1-6.0	0.0-0.3	2-7	0
802B:					
Orthents, loamy	0-6	5.6-7.8	0.5-2.0	10-25	0-10
	6-60	5.6-8.4	0.2-1.0	10-20	0-20
802F:					
Orthents, loamy	0-6	5.6-7.8	0.5-2.0	10-25	0-10
	6-60	5.6-8.4	0.2-1.0	10-20	0-20
805B:					
Orthents, clayey	0-6	5.6-7.8	0.5-2.0	22-38	0-10
	6-60	6.1-8.4	0.2-1.0	15-35	0-25
830.					
Landfills					
864, 865.					
Pits					
3082A:					
Millington------	0-26	7.4-8.4	4.0-6.0	20-28	5-20
	26-36	7.4-8.4	1.0-3.0	14-27	5-30
	36-62	7.4-8.4	0.1-2.0	11-25	10-30
3107A:					
Sawmill---------	0-29	6.1-7.3	4.0-7.0	23-35	0
	29-48	6.6-7.8	1.0-3.5	18-30	0-5
	48-60	6.6-8.4	0.2-2.0	15-27	0-10
3302A:					
Ambraw----------	0-11	5.6-7.3	3.0-5.0	12-21	0
	11-44	5.1-7.3	0.5-2.0	11-23	0
	44-52	6.1-7.8	0.0-1.0	6-20	0-10
	52-70	6.1-8.4	0.0-1.0	4-13	0-20
8302A:					
Ambraw----------	0-16	5.6-7.3	3.0-5.0	12-25	0
	16-44	5.1-7.3	0.5-2.0	11-23	0
	44-52	6.1-7.8	0.0-1.0	6-20	0-10
	52-70	6.1-8.4	0.0-1.0	4-13	0-20
8451A:					
Lawson----------	0-14	6.1-7.8	3.0-5.0	13-28	0
	14-33	6.1-7.8	2.0-4.0	13-29	0
	33-80	6.1-7.8	0.2-2.0	11-23	0

Table 24.--Water Features

(See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydro-logic group	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency	Water table: Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind
		Ft						Ft	Ft	
49A:										
Watseka-----------	A	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
69A:										
Milford-----------	C	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
88B:										
Sparta------------	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
91A:										
Swygert-----------	C	---	---	None	---	None	Jan-May	1.0-2.0	2.9-5.1	Perched
							Jun-Dec	>6.0	>6.0	---
91B2:										
Swygert-----------	C	---	---	None	---	None	Jan-May	1.0-2.0	2.9-5.1	Perched
							Jun-Dec	>6.0	>6.0	---
98B:										
Ade---------------	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
102A:										
La Hogue----------	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
103A:										
Houghton----------	A	0.0-1.0	Long	Frequent	---	None	Jan-Jun	0.0-1.0	>6.0	Apparent
							Jul-Oct	>6.0	>6.0	---
							Nov-Dec	0.0-1.0	>6.0	Apparent
125A:										
Selma-------------	B	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
131B:										
Alvin-------------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
146A:										
Elliott-----------	C	---	---	None	---	None	Jan-May	1.0-2.0	1.7-4.3	Perched
							Jun-Dec	>6.0	>6.0	---
146B:										
Elliott-----------	C	---	---	None	---	None	Jan-May	1.0-2.0	1.7-4.3	Perched
							Jun-Dec	>6.0	>6.0	---
146B2:										
Elliott-----------	C	---	---	None	---	None	Jan-May	1.0-2.0	1.7-4.3	Perched
							Jun-Dec	>6.0	>6.0	---
149A:										
Brenton-----------	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
150A:										
Onarga------------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency	Water table: Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind
		Ft						Ft	Ft	
150B:										
Onarga------------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
151A:										
Ridgeville--------	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
153A:										
Pella-------------	B	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
188A:										
Beardstown--------	B	---	---	None	---	None	Jan-May	0.5-2.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
189A:										
Martinton---------	C	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
201A:										
Gilford-----------	B	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
210A:										
Lena--------------	A	0.0-1.0	Long	Frequent	---	None	Jan-Jun	0.0-1.0	>6.0	Apparent
							Jul-Oct	>6.0	>6.0	---
							Nov-Dec	0.0-1.0	>6.0	Apparent
223B:										
Varna-------------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-5.5	Perched
							May-Dec	>6.0	>6.0	---
223B2:										
Varna-------------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-5.5	Perched
							May-Dec	>6.0	>6.0	---
223C2:										
Varna-------------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-5.5	Perched
							May-Dec	>6.0	>6.0	---
223C3:										
Varna-------------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-5.5	Perched
							May-Dec	>6.0	>6.0	---
232A:										
Ashkum------------	C	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
235A:										
Bryce-------------	D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
240A:										
Plattville--------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency	Water table: Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind
		Ft						Ft	Ft	
241C3:										
Chatsworth--------	D	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-4.0	Perched
							May-Dec	>6.0	>6.0	---
293A:										
Andres------------	C	---	---	None	---	None	Jan-May	1.0-2.0	3.0-5.5	Perched
							Jun-Dec	>6.0	>6.0	---
293B:										
Andres------------	C	---	---	None	---	None	Jan-May	1.0-2.0	3.0-5.5	Perched
							Jun-Dec	>6.0	>6.0	---
294A:										
Symerton----------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.5-4.7	Perched
							May-Dec	>6.0	>6.0	---
294B:										
Symerton----------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.5-4.7	Perched
							May-Dec	>6.0	>6.0	---
295A:										
Mokena------------	C	---	---	None	---	None	Jan-May	1.0-2.0	2.5-5.5	Perched
							Jun-Dec	>6.0	>6.0	---
298A:										
Beecher-----------	C	---	---	None	---	None	Jan-May	0.5-2.0	2.0-4.3	Perched
							Jun-Dec	>6.0	>6.0	---
298B:										
Beecher-----------	C	---	---	None	---	None	Jan-May	0.5-2.0	2.0-4.3	Perched
							Jun-Dec	>6.0	>6.0	---
311B:										
Ritchey-----------	D	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
311C:										
Ritchey-----------	D	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
311D:										
Ritchey-----------	D	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
315A:										
Channahon---------	D	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
315B:										
Channahon---------	D	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
315C2:										
Channahon---------	D	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
330A:										
Peotone-----------	C	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
369A:										
Waupecan----------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency	Water table: Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind
		Ft						Ft	Ft	
369B:										
Waupecan----------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
380A:										
Fieldon-----------	B	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
403E:										
Elizabeth---------	D	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
403F:										
Elizabeth---------	D	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
440A:										
Jasper------------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
440B:										
Jasper------------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
440C2:										
Jasper------------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
493A:										
Bonfield----------	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
494A:										
Kankakee----------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
494B:										
Kankakee----------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
501A:										
Morocco-----------	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
503A:										
Rockton-----------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
503B:										
Rockton-----------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
509A:										
Whalan------------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
509B:										
Whalan------------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
513A:										
Granby------------	A	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
516A:										
Faxon-------------	B	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	1.7-3.3	Perched
							Jun-Dec	>6.0	>6.0	---
523A:										
Dunham------------	B	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency	Water table: Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind
		Ft						Ft	Ft	
526A:										
Grundelein--------	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
530B:										
Ozaukee-----------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-4.3	Perched
							May-Dec	>6.0	>6.0	---
530C2:										
Ozaukee-----------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-4.3	Perched
							May-Dec	>6.0	>6.0	---
530C3:										
Ozaukee-----------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-4.3	Perched
							May-Dec	>6.0	>6.0	---
530D2:										
Ozaukee-----------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-4.3	Perched
							May-Dec	>6.0	>6.0	---
530D3:										
Ozaukee-----------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-4.3	Perched
							May-Dec	>6.0	>6.0	---
530E2:										
Ozaukee-----------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-4.3	Perched
							May-Dec	>6.0	>6.0	---
530F:										
Ozaukee-----------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-4.3	Perched
							May-Dec	>6.0	>6.0	---
531B:										
Markham-----------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-5.1	Perched
							May-Dec	>6.0	>6.0	---
531C2:										
Markham-----------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-5.1	Perched
							May-Dec	>6.0	>6.0	---
570B:										
Martinsville------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
570C2:										
Martinsville------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
570D2:										
Martinsville------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
570E2:										
Martinsville------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency	Water table: Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind
		Ft						Ft	Ft	
570F:										
Martinsville------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
594A:										
Reddick-----------	C	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
610A:										
Tallmadge---------	B	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	3.3-5.0	Perched
							Jun-Dec	>6.0	>6.0	---
664A:										
Rensselaer--------	B	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
688B:										
Braidwood---------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
688D:										
Braidwood---------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
688G:										
Braidwood---------	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
719A:										
Symerton----------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.5-4.7	Perched
							May-Dec	>6.0	>6.0	---
719B:										
Symerton----------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.5-4.7	Perched
							May-Dec	>6.0	>6.0	---
719C2:										
Symerton----------	C	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.5-4.7	Perched
							May-Dec	>6.0	>6.0	---
740A:										
Darroch-----------	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
741B:										
Oakville----------	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
741D:										
Oakville----------	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
741E:										
Oakville----------	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
741F:										
Oakville----------	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
777A:										
Adrian------------	A	0.0-1.0	Long	Frequent	---	None	Jan-Jun	0.0-1.0	>6.0	Apparent
							Jul-Oct	>6.0	>6.0	---
							Nov-Dec	0.0-1.0	>6.0	Apparent

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency	Water table: Months	Water table: Upper limit	Water table: Lower limit	Water table: Kind
		Ft						Ft	Ft	
779B:										
Chelsea-----------	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
802B:										
Orthents, loamy---	B	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	3.5-5.0	3.7-5.5	Perched
							May-Dec	>6.0	>6.0	---
802F:										
Orthents, loamy---	B	---	---	None	---	None	Jan	>6.0	>6.0	---
							Feb-Apr	3.5-5.0	3.7-5.5	Perched
							May-Dec	>6.0	>6.0	---
805B:										
Orthents, clayey--	C			None		None	Jan	>6.0	>6.0	---
							Feb-Apr	2.0-3.5	2.2-4.0	Perched
				None		None	May-Dec	>6.0	>6.0	---
830:										
Landfills---------	C	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
864, 865.										
Pits										
3082A:										
Millington--------	B	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
3107A:										
Sawmill-----------	B	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
3302A:										
Ambraw------------	B	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
8302A:										
Ambraw------------	B	0.0-0.5	Brief	Frequent	Brief	Occasional	Jan-May	0.0-1.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---
8451A:										
Lawson------------	B	---	---	None	Brief	Occasional	Jan-May	1.0-2.0	>6.0	Apparent
							Jun-Dec	>6.0	>6.0	---

Table 25.--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: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In		In	In			
49A:								
Watseka-----------	---	---	---	---	---	Low	Low	High
69A:								
Milford-----------	---	---	---	---	---	High	High	Low
88B:								
Sparta------------	---	---	---	---	---	Low	Low	High
91A:								
Swygert-----------	Dense material	35-55	Noncemented	---	---	Moderate	High	Moderate
91B2:								
Swygert-----------	Dense material	35-55	Noncemented	---	---	Moderate	High	Moderate
98B:								
Ade---------------	---	---	---	---	---	Low	Low	High
102A:								
La Hogue----------	---	---	---	---	---	Moderate	High	Moderate
103A:								
Houghton----------	---	---	---	6-18	55-60	High	High	High
125A:								
Selma-------------	---	---	---	---	---	High	High	Low
131B:								
Alvin-------------	---	---	---	---	---	Moderate	Low	High
146A:								
Elliott-----------	Dense material	20-45	Noncemented	---	---	Moderate	High	Moderate
146B:								
Elliott-----------	Dense material	20-45	Noncemented	---	---	Moderate	High	Moderate
146B2:								
Elliott-----------	Dense material	20-45	Noncemented	---	---	Moderate	High	Moderate
149A:								
Brenton-----------	---	---	---	---	---	High	High	Moderate
150A:								
Onarga------------	---	---	---	---	---	Moderate	Low	High
150B:								
Onarga------------	---	---	---	---	---	Moderate	Low	High
151A:								
Ridgeville--------	---	---	---	---	---	Moderate	Moderate	Moderate
153A:								
Pella-------------	---	---	---	---	---	High	High	Low
188A:								
Beardstown--------	---	---	---	---	---	High	High	High

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In		In	In			
189A:								
Martinton---------	---	---	---	---	---	Moderate	High	Moderate
201A:								
Gilford-----------	---	---	---	---	---	High	High	Moderate
210A:								
Lena--------------	---	---	---	6-18	55-60	High	High	Low
223B:								
Varna-------------	Dense material	24-60	Noncemented	---	---	Moderate	High	Moderate
223B2:								
Varna-------------	Dense material	24-60	Noncemented	---	---	Moderate	High	Moderate
223C2:								
Varna-------------	Dense material	24-60	Noncemented	---	---	Moderate	High	Moderate
223C3:								
Varna-------------	Dense material	24-60	Noncemented	---	---	Moderate	High	Moderate
232A:								
Ashkum------------	---	---	---	---	---	High	High	Low
235A:								
Bryce-------------	---	---	---	---	---	High	High	Moderate
240A:								
Plattville--------	Bedrock (lithic)	40-60	Strongly cemented	---	---	Moderate	Moderate	Moderate
241C3:								
Chatsworth--------	Dense material	10-24	Noncemented	---	---	Moderate	High	Low
293A:								
Andres------------	---	---	---	---	---	Moderate	High	Low
293B:								
Andres------------	---	---	---	---	---	Moderate	High	Low
294A:								
Symerton----------	---	---	---	---	---	Moderate	High	Moderate
294B:								
Symerton----------	---	---	---	---	---	Moderate	High	Moderate
295A:								
Mokena------------	Dense material	30-60	Noncemented	---	---	Moderate	High	Low
298A:								
Beecher-----------	Dense material	24-45	Noncemented	---	---	High	High	High
298B:								
Beecher-----------	Dense material	24-45	Noncemented	---	---	High	High	High
311B:								
Ritchey-----------	Bedrock (lithic)	10-20	Strongly cemented	---	---	Moderate	Moderate	Moderate
311C:								
Ritchey-----------	Bedrock (lithic)	10-20	Strongly cemented	---	---	Moderate	Moderate	Moderate
311D:								
Ritchey-----------	Bedrock (lithic)	10-20	Strongly cemented	---	---	Moderate	Moderate	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In		In	In			
315A:								
Channahon---------	Bedrock (lithic)	10-20	Strongly cemented	---	---	Moderate	Moderate	Low
315B:								
Channahon---------	Bedrock (lithic)	10-20	Strongly cemented	---	---	Moderate	Moderate	Low
315C2:								
Channahon---------	Bedrock (lithic)	10-20	Strongly cemented	---	---	Moderate	Moderate	Low
330A:								
Peotone-----------	---	---	---	---	---	High	High	Moderate
369A:								
Waupecan----------	---	---	---	---	---	High	Moderate	Moderate
369B:								
Waupecan----------	---	---	---	---	---	High	Moderate	Moderate
380A:								
Fieldon-----------	---	---	---	---	---	High	High	Low
403E:								
Elizabeth---------	Bedrock (lithic)	7-20	Strongly cemented	---	---	Moderate	Low	Low
403F:								
Elizabeth---------	Bedrock (lithic)	7-20	Strongly cemented	---	---	Moderate	Low	Low
440A:								
Jasper------------	---	---	---	---	---	Moderate	Moderate	Moderate
440B:								
Jasper------------	---	---	---	---	---	Moderate	Moderate	Moderate
440C2:								
Jasper------------	---	---	---	---	---	Moderate	Moderate	Moderate
493A:								
Bonfield----------	---	---	---	---	---	Moderate	Moderate	Moderate
494A:								
Kankakee----------	---	---	---	---	---	Moderate	Moderate	Moderate
494B:								
Kankakee----------	---	---	---	---	---	Moderate	Moderate	Moderate
501A:								
Morocco-----------	---	---	---	---	---	Moderate	Low	High
503A:								
Rockton-----------	Bedrock (lithic)	20-40	Strongly cemented	---	---	Moderate	Moderate	Moderate
503B:								
Rockton-----------	Bedrock (lithic)	20-40	Strongly cemented	---	---	Moderate	Moderate	Moderate
509A:								
Whalan------------	Bedrock (lithic)	20-40	Strongly cemented	---	---	Moderate	Moderate	Moderate
509B:								
Whalan------------	Bedrock (lithic)	20-40	Strongly cemented	---	---	Moderate	Moderate	Moderate
513A:								
Granby------------	---	---	---	---	---	Moderate	High	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
516A:								
Faxon	Bedrock (lithic)	20-40	Strongly cemented	---	---	High	High	Low
523A:								
Dunham	---	---	---	---	---	High	High	Moderate
526A:								
Grundelein	---	---	---	---	---	High	High	Moderate
530B:								
Ozaukee	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
530C2:								
Ozaukee	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
530C3:								
Ozaukee	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
530D2:								
Ozaukee	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
530D3:								
Ozaukee	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
530E2:								
Ozaukee	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
530F:								
Ozaukee	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
531B:								
Markham	Dense material	20-55	Noncemented	---	---	Moderate	High	Moderate
531C2:								
Markham	Dense material	20-55	Noncemented	---	---	Moderate	High	Moderate
570B:								
Martinsville	---	---	---	---	---	Moderate	Moderate	Moderate
570C2:								
Martinsville	---	---	---	---	---	Moderate	Moderate	Moderate
570D2:								
Martinsville	---	---	---	---	---	Moderate	Moderate	Moderate
570E2:								
Martinsville	---	---	---	---	---	Moderate	Moderate	Moderate
570F:								
Martinsville	---	---	---	---	---	Moderate	Moderate	Moderate
594A:								
Reddick	---	---	---	---	---	High	High	Low
610A:								
Tallmadge	Bedrock (lithic)	40-60	Strongly cemented	---	---	High	High	Low
664A:								
Rensselaer	---	---	---	---	---	High	High	Low
688B:								
Braidwood	---	---	---	---	---	Moderate	Low	Low

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In		In	In			
688D:								
Braidwood	---	---	---	---	---	Moderate	Low	Low
688G:								
Braidwood	---	---	---	---	---	Moderate	Low	Low
719A:								
Symerton	---	---	---	---	---	Moderate	High	Moderate
719B:								
Symerton	---	---	---	---	---	Moderate	High	Moderate
719C2:								
Symerton	---	---	---	---	---	Moderate	High	Moderate
740A:								
Darroch	---	---	---	---	---	Moderate	High	Moderate
741B:								
Oakville	---	---	---	---	---	Low	Low	High
741D:								
Oakville	---	---	---	---	---	Low	Low	High
741E:								
Oakville	---	---	---	---	---	Low	Low	High
741F:								
Oakville	---	---	---	---	---	Low	Low	High
777A:								
Adrian	---	---	---	6-18	29-33	High	High	High
779B:								
Chelsea	---	---	---	---	---	Low	Low	High
802B:								
Orthents, loamy	---	---	---	---	---	Moderate	Moderate	Moderate
802F:								
Orthents, loamy	---	---	---	---	---	Moderate	Moderate	Moderate
805B:								
Orthents, clayey	---	---	---	---	---	Moderate	High	Moderate
830.								
Landfills								
864, 865.								
Pits								
3082A:								
Millington	---	---	---	---	---	High	High	Low
3107A:								
Sawmill	---	---	---	---	---	High	High	Low
3302A:								
Ambraw	---	---	---	---	---	High	High	Moderate
8302A:								
Ambraw	---	---	---	---	---	High	High	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
8451A:								
Lawson------------	---	---	---	---	---	High	High	Low