United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Purdue University Agricultural Experiment Station and Indiana Department of Natural Resources, Division of Soil Conservation and State Soil Conservation Board

Soil Survey of Bartholomew County, Indiana

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How To Use This Soil Survey

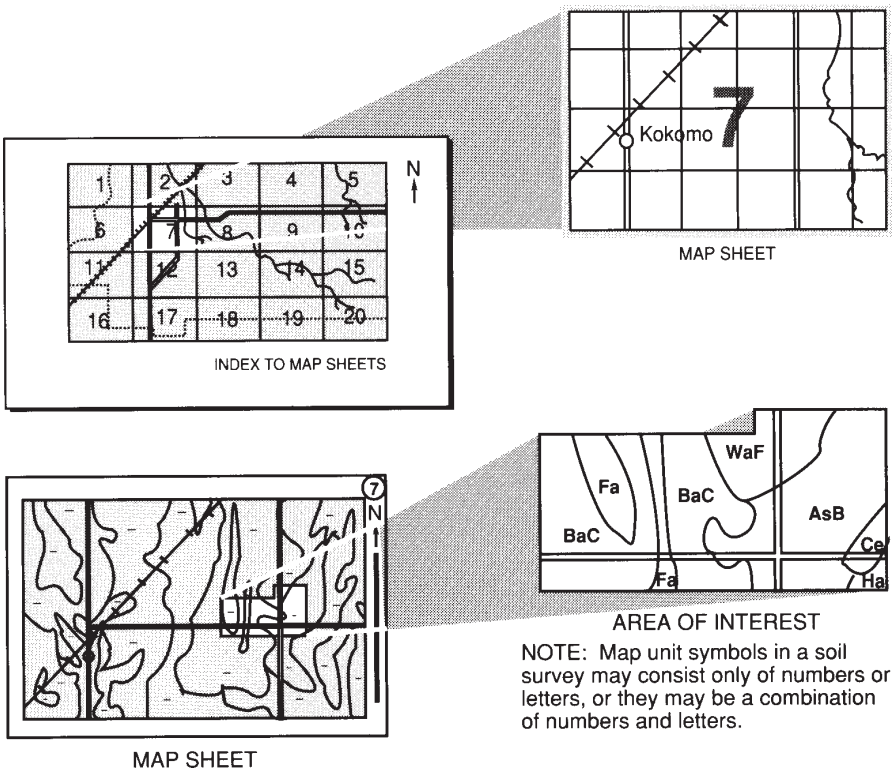
Detailed Soil Maps

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

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

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

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



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Major fieldwork for this soil survey was completed in 2000. Soil names and descriptions were approved in 2002. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2002. This survey was made cooperatively by the Natural Resources Conservation Service; the Purdue University Agricultural Experiment Station; and the Indiana Department of Natural Resources, Division of Soil Conservation and State Soil Conservation Board. The survey is part of the technical assistance furnished to the Bartholomew County Soil and Water Conservation District. Financial assistance was provided by local entities in Bartholomew County.

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Cover: Soybeans under center-pivot irrigation in an area of Fox loam, 0 to 2 percent slopes.

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Foreword

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

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

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

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

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

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Soil Survey of
Bartholomew County, Indiana

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United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with
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Bartholomew County is in the north-central part of southern Indiana (fig. 1). It has a total area of 410 square miles or 262,329 acres. The county extends about 21 miles from north to south and 21 miles from east to west. A portion of the Hoosier National Forest is in the southwestern part of the county, and Camp Atterbury Military Reservation is in the northwestern part. Columbus, the county seat, is in the central part of the county at the junction of the Driftwood and Flat Rock Rivers and at the beginning of the East Fork of the White River. In 2000, Bartholomew County had a population of 71,435 and Columbus had a population of 39,059 (U.S. Department of Commerce, 2000).

A part of this survey gives information on nonfarm uses of soils. The areas around cities and towns have been annexed, and the land use is being changed. Some areas lend themselves to urban development with few limitations, but other areas have so many limitations that nonfarm uses are questionable.

This soil survey updates and refines previous surveys of Bartholomew County (Brownfield, 1976; Ulrich and others, 1947). It provides additional information and has larger maps, which show the soils in greater detail. It provides additional information about soil interpretations.

General Nature of the Survey Area

This section gives general information about the physical and cultural features of the county. It describes history and development; industries and transportation facilities; physiography, relief, and drainage; farming; water resources; and climate.

History and Development

Until about 1818, the Delaware Indians were the primary inhabitants of the area that is now Bartholomew County. In 1818, a treaty opened up land north of Fort Vallonia; this land included Bartholomew County. The county was surveyed in 1819, and the sale of land began in 1820.

General John Tipton had been working with State commissioners appointed to select a site for the State capitol of Indiana. When he passed through this area of southeastern Indiana, Tipton purchased from the government several tracts of choice land, near the confluence of the Flatrock and Driftwood Rivers. On January 12, 1821, the State legislature enacted legislation establishing a new county in this area to be named Bartholomew County. The county originally

Figure 1.—Location of Bartholomew County in Indiana.

included a part of Brown County and all of Jackson County. The county was named for General Joseph Bartholomew, who fought in the Battle of Tippecanoe. The townships, except for Ohio, are named for the streams that pass through them.

Jasper Cox, a Virginian, was the first settler. He settled on Haw Creek in 1819. Most of the settlers came from Ohio, Kentucky, Virginia, and North Carolina (fig. 2).

The Haw Patch land, on terraces of the White River, was occupied first. This area mainly consists of Nineveh and Fox soils. The Wisconsin Till Plain areas in the eastern part of the county were settled next. A new village was established and was named Tiptona, after General Tipton. In March of 1821, the village name was changed to Columbus. Most of the Illinoian Till Plain and Knobstone unglaciated areas were not settled until 1833. Much of this land was settled by Prussian immigrants (Bartholomew County Historical Society).

Grist mills, sawmills, woolen mills, and distilleries were established along the main streams and utilized the abundant water power to process the produce of the county. Products of these early industries were loaded into flatboats and floated out of the wilderness to markets as far south as New Orleans. Hogs were driven on foot over the Madison State Road to the pork-packing houses in Madison.

The citizens of Columbus first petitioned for incorporation of the town in 1835. That effort failed, but a new petition was submitted in 1837 and Columbus was incorporated as a town. Columbus was incorporated as a city in 1864.

There were no public schools in the early history of the county. Education was provided by groups of neighbors, who would hire a teacher and provide the necessary space. Organized education began with the Liberty School and Meeting House. Built in 1829, it was used for educational and religious purposes. The Old Seminary was built in 1838.

The Constitution of Indiana established a public schools system in 1851. Another building for the education of students of all grades was erected in 1859, on the site where the current Central School now stands. Higher education in the county was available at Hartsville College and the Moravian Center for Young Ladies at Hope, which became the Hope Normal School. The Bates Conservatory of Music was located in Columbus.

On July 4, 1844, the first railroad train arrived in Columbus from Madison, thus marking the end of the flatboat era. The Madison and Indianapolis Railroad was followed by a line from Jeffersonville in 1852, another to Shelbyville in 1853, and one to Greensburg in 1855.

During the Civil War, economic and industrial development in the area continued, due in large part to Camp Rendezvous. The camp was an assembly point for troops and supplies. It was located on the outskirts of Columbus.

The population of Columbus was 1,008 in 1950 and 39,059 in 2000. The population of Bartholomew County was 5,476 in 1930 and 71,435 in 2000.

Industries and Transportation Facilities

Columbus has many different industries. Some of the smaller companies produce component parts or provide services to the larger industries. The gravel deposits underlying the terraces provide a good source of gravel and sand. Several gravel pits are in operation. In places, the depth to limestone is fairly shallow; limestone is quarried in these areas.

Figure 2.—Sites of historical significance are found in Bartholomew County.

Bartholomew County is served by several State highways and by U.S. Highway 31 and Interstate Highway 65. Columbus is located on Interstate Highway 65 between Indianapolis, Indiana, and Louisville, Kentucky. The Louisville and Indiana Railroad that runs from Indianapolis to Louisville also serves Columbus.

Grain is marketed through local elevators. From these elevators, grain is shipped by truck or railroad to larger terminals in Indianapolis, Indiana; Louisville, Kentucky; Chicago, Illinois; or Cincinnati, Ohio.

Indianapolis, Louisville, and Cincinnati are the major livestock markets.

Physiography, Relief, and Drainage

Bartholomew County includes three major land resource areas (MLRAs): Indiana and Ohio Till Plain (MLRA 111), Southern Illinois and Indiana Thin Loess and Till Plain (MLRA 114), and Kentucky and Indiana Sandstone and Shale Hills and Valleys (MLRA 120) (USDA, 1981). The eastern part of the county is characterized mainly by nearly level to moderately sloping soils on uplands of the Wisconsin Till Plain and steeper soils along major streams that have entrenched into the till. The central part of the county consists mainly of broad, nearly level and gently sloping soils on terraces and flood plains along the Driftwood River, the Flatrock River, and the East Fork of the White River. Most of the bottom lands are subject to flooding. The older Illinoian Till Plain is west of the Driftwood River and the East Fork of the White River. It consists of nearly level to strongly sloping soils and includes steeper soils in areas where the dissecting streams have cut into the till. The far western part of the county is dominated by the Knobstone Escarpment (fig. 3) and the very high and steep Brownstown Hills that are underlain by siltstone and shale bedrock.

The relief of Bartholomew County ranges from nearly level to very steep. In most parts of the county, the upland topography is mainly nearly level to gently sloping, except for the areas near drainageways, which are generally more strongly sloping. A dendritic stream pattern is entrenched into both the Illinoian and Wisconsin Till Plains. The terraces are mainly nearly level, except for the steep breaks between the terrace and bottom land. In the extreme western part of the county, the relief ranges from steep on the hillsides to gently sloping on tops of ridges. These unglaciated hills are the most prominent features on the landscape. The east-facing prominent hills are the northernmost part of the Knobstone Escarpment, which extends southward into Kentucky.

The drainage system of Bartholomew County formed mainly during periods of glaciation. The valleys of the Driftwood River, the Flatrock River, the East Fork of the White River, and Clifty Creek formed by the meltwater of the Wisconsin glacier. All of the streams and tributaries in the county drain into the East Fork of the White River, except for Salt Creek, which flows west into Brown County.

Farming

Brian Ingmire, district conservationist, Natural Resources Conservation Service, and the staff of the Bartholomew County Farm Service Agency helped to prepare this section.

There are 1,664 farms in Bartholomew County incorporating 139,310 acres of cropland. Cash grain, hay, and livestock are the major farming enterprises in the county. Corn and soybeans are the main cash grain crops. In 2003, approximately 58,880 acres of corn and 71,540 acres of soybeans were grown in the

Figure 3.—View of the Illinoian Till Plain in the foreground and the Knobstone Escarpment in the background.

county. Small grain crops are grown on about 4,700 acres. Approximately 1,600 acres is used for more specialized crops, such as watermelons, melons, tomatoes, green beans, popcorn, grapes, tobacco, and seed corn. These crops are raised mainly in the irrigated or sandier areas of the county (fig. 4). There are some tree farms in the western part of the county. Hogs and beef cattle are the main livestock raised. There are also several dairy operations in the county.

Water Resources

In Bartholomew County, the quantity of water available for use from wells is related to the geologic material of the area (Brownfield, 1976). The water for Columbus is supplied from terraces along the Driftwood River, the Flatrock River, and the East Fork of the White River. These terraces are underlain by gravel and sand deposits, which act as reservoirs for holding water. Rural water systems are supplied from these terraces, and most irrigation water is pumped from wells in the terraces.

In upland areas of Wisconsin till, the depth to water and the quantity of water depend on the thickness and composition of the till. Most water in this area comes from gravel and sand strata within the till. Wisconsin till is relatively thin over limestone in some places. In some areas, the wells extend into the stone and are not as reliable a source of water as wells in areas where the till is thicker.

In areas of Illinoian drift, the reliability of wells as a source of water is variable. Most wells yield enough water for household needs. Rural water is available in some areas around small towns. Many ponds have been built for livestock water.

In the unglaciated Knobstone area of the county, wells sometimes do not produce enough water for household needs. Many ponds have been built to provide for household and livestock water. Rural water lines have been established in some places.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Columbus 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 30.8 degrees F and the average daily minimum temperature is 21.8 degrees. The lowest temperature on record, which occurred at Columbus on January 13, 1912, was -27 degrees. In summer, the average temperature is 73.5 degrees and the average daily maximum temperature is 84.1 degrees. The highest recorded temperature, which occurred at Columbus on July 24, 1934, is 111 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The average annual total precipitation is 41.92 inches. Of this total, about 26.05 inches, or 62 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall on record was 7.00 inches at Columbus on March 25, 1913. Thunderstorms occur on about 43 days each year, and most occur between April and August.

The average seasonal snowfall is 13.3 inches. The greatest snow depth at any one time was 18 inches, recorded on February 18, 1910. On average, 9 days per year have at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 13.5 inches, recorded on January 17, 1978.

The average relative humidity in midafternoon is about 61 percent. Humidity is higher at night, and the average at dawn is about 83 percent. The sun shines 67 percent of the time possible in summer and 43 percent in winter. The prevailing wind is from the

Figure 4.—An area of seed corn under center-pivot irrigation in the flood plain of the Flatrock River. Fox-Casco sandy loams, 6 to 12 percent slopes, severely eroded, are in the foreground. In the background are Medway silty clay loam, 0 to 2 percent slopes, frequently flooded, brief duration, and Nineveh gravelly sandy loam, 0 to 2 percent slopes, rarely flooded.

southwest, except during the period from January to March, when it is more northwesterly. Average windspeed is highest, between 11 and 12 miles per hour, from January to April.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in Bartholomew County. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock and other parent materials. 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, landform, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or segment of that landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

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

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

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

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

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

Descriptions, names, and delineations of the soils in this survey do not fully agree with those of the earlier surveys nor with those of the surveys of adjacent counties. These differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the extent of soils in the survey areas.

Detailed Soil Map Units

The map units delineated 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.

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 under the heading “Map Unit Composition.” 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.

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, Martinsville loam, sandy substratum, 0 to 2 percent slopes, is a phase of the Martinsville series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes. A complex consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Fox-Casco sandy loams, 6 to 12 percent slopes, severely eroded, is an example.

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

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

AddA—Avonburg silt loam, 0 to 2 percent slopes

Setting

Landform: Illinoian till plains
Position on the landform: Summits

Map Unit Composition

Avonburg and similar soils—85 percent
The poorly drained Cobbsfork and similar soils, which are in depressions on summits—10 percent
The moderately well drained Nabb and similar soils, which are on summits—5 percent

Interpretive Groups

Land capability classification: Avonburg—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Avonburg Soil

Parent material: Loess and the underlying paleosol in till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 40 to 60 inches to a fragipan
Available water capacity: About 9.5 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
Perched seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

AddB2—Avonburg silt loam, 2 to 4 percent slopes, eroded

Setting

Landform: Illinoian till plains
Position on the landform: Upper backslopes and shoulders

Map Unit Composition

Avonburg and similar soils—75 percent
The moderately well drained Nabb and similar soils, which are on backslopes and shoulders—10 percent
The poorly drained Cobbsfork and similar soils, which are in depressions on summits—10 percent
The somewhat poorly drained Wakeland and similar soils, which are in narrow drainageways—5 percent

Interpretive Groups

Land capability classification: Avonburg—2e
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Avonburg Soil

Parent material: Loess and the underlying paleosol in till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below 40 inches: Very slow or slow
Depth to restrictive feature: 40 to 60 inches to a fragipan
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

AfsB—Alvin-Princeton fine sandy loams, 2 to 6 percent slopes

Setting

Landform: Dunes
Position on the landform: Backslopes and shoulders

Map Unit Composition

Alvin and similar soils—45 percent
Princeton and similar soils—35 percent
The somewhat excessively drained Bloomfield and similar soils, which are on backslopes and shoulders—10 percent
The somewhat poorly drained Ayrshire and similar soils, which are on footslopes of interdunes on terraces—5 percent
The moderately well drained Miami and similar soils, which are on backslopes and shoulders—5 percent

Interpretive Groups

Land capability classification: Alvin—2e; Princeton—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Alvin Soil

Parent material: Loamy and sandy eolian deposits
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately rapid
Permeability below a depth of 40 inches: Moderately rapid or 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 2.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high (fig. 5)

Properties and Qualities of the Princeton Soil

Parent material: Silt and fine sand eolian deposits
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate to rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

AfsC2—Alvin-Princeton fine sandy loams, 6 to 12 percent slopes, eroded

Setting

Landform: Dunes
Position on the landform: Backslopes and shoulders

Map Unit Composition

Alvin and similar soils—50 percent
Princeton and similar soils—35 percent
The somewhat excessively drained Bloomfield and similar soils, which are on backslopes and shoulders—10 percent
The moderately well drained Miami and similar soils, which are on backslopes and shoulders—5 percent

Interpretive Groups

Land capability classification: Alvin—3e; Princeton—3e
Prime farmland status: Not prime farmland

Properties and Qualities of the Alvin Soil

Parent material: Loamy and sandy eolian deposits
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately rapid
Permeability below a depth of 40 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.5 inches to a depth of 60 inches

Figure 5.—Wind erosion in areas of Alvin-Princeton fine sandy loams, 2 to 6 percent slopes, and Bloomfield-Alvin loamy sands, 6 to 12 percent slopes.

Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderately high

Properties and Qualities of the Princeton Soil

Parent material: Silt and fine sand eolian deposits
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate to rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderately high

AmkA—Ayrshire fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Interdunes, terraces, and Wisconsin till plains
Position on the landform: Footslopes

Map Unit Composition

Ayrshire and similar soils—92 percent
The poorly drained Rensselaer and similar soils, which are on toeslopes of depressions or narrow swales on stream terraces and interdunes—5 percent
The well drained Princeton and similar soils, which are on backslopes and shoulders—3 percent

Interpretive Groups

Land capability classification: Ayrshire—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Ayrshire Soil

Parent material: Sandy eolian deposits
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate to rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

BbhA—Bartle silt loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Bartle and similar soils—83 percent
The poorly drained Peoga and similar soils, which are in depressions on summits—10 percent
The moderately well drained Pekin and similar soils, which are on shoulders—5 percent
The somewhat poorly drained, rarely flooded Bartle and similar soils, which are on footslopes—2 percent

Interpretive Groups

Land capability classification: Bartle—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Bartle Soil

Parent material: Thin loess and the underlying alluvium or alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow to 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: 1.0 to 2.0 percent
Shrink-swell potential: Low
Perched seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

BbiB—Bartle-Pekin silt loams, 2 to 6 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Bartle and similar soils—55 percent
Pekin and similar soils—35 percent
The well drained Elkinsville and similar soils, which are on backslopes—5 percent

The poorly drained Peoga and similar soils, which are in depressions on summits—5 percent

Interpretive Groups

Land capability classification: Bartle—2e; Pekin—2e
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Bartle Soil

Parent material: Thin loess and the underlying alluvium or alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow to 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: 1.0 to 2.0 percent
Shrink-swell potential: Low
Perched seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Pekin Soil

Parent material: Thin loess and the underlying alluvium or alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow to moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Perched seasonal high water table is highest (depth, months): 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

BcrAW—Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Beanblossom and similar soils—89 percent
The moderately well drained Wilbur and similar soils—5 percent
The deep, somewhat poorly drained soil and similar soils—3 percent
The well drained Beanblossom, frequently flooded, very brief duration, and similar soils—3 percent

Interpretive Groups

Land capability classification: Beanblossom—2w
Prime farmland status: Prime farmland

Properties and Qualities of the Beanblossom Soil

Parent material: Loamy-skeletal alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to rapid
Permeability below a depth of 40 inches: Impermeable to rapid
Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)
Available water capacity: About 7.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Perched seasonal high water table is highest (depth, months): 3.3 feet (January, February, March)
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

BdhAH—Bellcreek silty clay loam, 0 to 1 percent slopes, frequently flooded, brief duration

Setting

Landform: Backswamps and flood plains

Map Unit Composition

Bellcreek and similar soils—80 percent
The somewhat poorly drained Shoals and similar soils, which are on slight rises—10 percent
The very poorly drained Sloan and similar soils, which are in backswamps or meander scars—10 percent

Interpretive Groups

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

Properties and Qualities of the Bellcreek Soil

Parent material: Clayey alluvium over loamy alluvium over loamy alluvium
Drainage class: Very poorly drained
Permeability to a depth of 40 inches: Moderately slow
Permeability below a depth of 40 inches: Moderately slow or moderate
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 6.0 percent
Shrink-swell potential: High
Apparent seasonal high water table is highest (depth, months): At the surface (January, February, March)
Frequency of ponding: Frequent (December, January, February, March, April, May)
Frequency of flooding: Frequent (January, February, March, April)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

BfbAH—Bellcreek silt loam, 0 to 1 percent slopes, frequently flooded, brief duration

Setting

Landform: Backswamps and flood plains

Map Unit Composition

Bellcreek and similar soils—80 percent
The somewhat poorly drained Shoals and similar soils, which are on slight rises—10 percent
The very poorly drained Sloan and similar soils, which are in backswamps or meander scars—10 percent

Interpretive Groups

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

Properties and Qualities of the Bellcreek Soil

Parent material: Silty alluvium over clayey alluvium over loamy alluvium
Drainage class: Very poorly drained
Permeability to a depth of 40 inches: Moderately slow
Permeability below a depth of 40 inches: Moderately slow or moderate
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 6.0 percent
Shrink-swell potential: High
Apparent seasonal high water table is highest (depth, months): At the surface (January, February, March)
Frequency of ponding: Frequent (December, January, February, March, April, May)
Frequency of flooding: Frequent (January, February, March, April)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

BgeAW—Birds silt loam, 0 to 1 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Backswamps and flood plains

Map Unit Composition

Birds and similar soils—90 percent
The somewhat poorly drained Wakeland and similar soils, which are on flood plains—10 percent

Interpretive Groups

Land capability classification: Birds—3w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Birds Soil

Parent material: Fine-silty alluvium
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 13.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): At the surface (January, February, March)
Frequency of ponding: Frequent (December, January, February, March, April, May)
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

BlgC2—Blocher-Cincinnati silt loams, 6 to 12 percent slopes, eroded

Setting

Landform: Illinoian till plains
Position on the landform: Backslopes and shoulders

Map Unit Composition

Blocher and similar soils—54 percent
Cincinnati and similar soils—35 percent
The moderately well drained Blocher, severely eroded, and similar soils, which are on backslopes and shoulders—5 percent
The moderately well drained Cincinnati, severely eroded, and similar soils, which are on backslopes and shoulders—3 percent
The somewhat poorly drained Wakeland, occasionally flooded, very brief duration, and similar soils, which are in narrow drainageways—2 percent
The well drained Bonnell and similar soils, which are on backslopes—1 percent

Interpretive Groups

Land capability classification: Blocher—3e; Cincinnati—3e
Prime farmland status: Not prime farmland

Properties and Qualities of the Blocher Soil

Parent material: Thin loess and loamy materials and the underlying paleosol in till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Cincinnati Soil

Parent material: Loess and the underlying paleosol in till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 20 to 36 inches to a fragipan
Available water capacity: About 7.1 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
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete

Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

BlgC3—Blocher-Cincinnati silt loams, 6 to 12 percent slopes, severely eroded

Setting

Landform: Illinoian till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Blocher and similar soils—45 percent
Cincinnati and similar soils—34 percent
The moderately well drained Cincinnati, eroded, and similar soils, which are on backslopes and shoulders—10 percent
The moderately well drained Blocher, eroded, and similar soils, which are on backslopes and shoulders—8 percent
The somewhat poorly drained Wakeland, occasionally flooded, very brief duration, and similar soils, which are in narrow drainageways—2 percent
The well drained Bonnell and similar soils, which are on backslopes—1 percent

Interpretive Groups

Land capability classification: Blocher—4e; Cincinnati—4e
Prime farmland status: Not prime farmland

Properties and Qualities of the Blocher Soil

Parent material: Thin loess and loamy materials and the underlying paleosol in till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow or moderately slow
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: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Cincinnati Soil

Parent material: Loess and the underlying paleosol in till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Slow
Depth to restrictive feature: 10 to 20 inches to a fragipan
Available water capacity: About 5.9 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
Perched seasonal high water table is highest (depth, months): 0.8 feet (November, December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

BlhD2—Blocher-Bonnell silt loams, 12 to 25 percent slopes, eroded

Setting

Landform: Illinoian till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Blocher and similar soils—40 percent
Bonnell and similar soils—30 percent
The well drained Hickory and similar soils, which are on backslopes—12 percent
The moderately well drained Blocher, severely eroded, and similar soils, which are on backslopes and shoulders—6 percent

The moderately well drained Cincinnati, eroded, and similar soils, which are on backslopes and shoulders—5 percent
The well drained Bonnell, severely eroded, and similar soils, which are on backslopes and shoulders—4 percent
The somewhat poorly drained Wakeland, occasionally flooded, very brief duration, and similar soils, which are in narrow drainageways—3 percent

Interpretive Groups

Land capability classification: Blocher—4e; Bonnell—6e
Prime farmland status: Not prime farmland

Properties and Qualities of the Blocher Soil

Parent material: Thin loess and loamy materials and the underlying paleosol in till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Bonnell Soil

Parent material: Very thin loess or loamy materials and the underlying paleosol in till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Slow to moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

BluC—Bloomfield-Alvin loamy sands, 6 to 12 percent slopes

Setting

Landform: Dunes
Position on the landform: Backslopes and shoulders

Map Unit Composition

Bloomfield and similar soils—45 percent
Alvin and similar soils—40 percent
The moderately well drained Miami and similar soils, which are on backslopes and shoulders of Wisconsin till plains—10 percent
The well drained Princeton and similar soils, which are on backslopes and shoulders—3 percent
The somewhat poorly drained Ayrshire and similar soils, which are on footslopes on interdunes—2 percent

Interpretive Groups

Land capability classification: Bloomfield—3e; Alvin—3e
Prime farmland status: Not prime farmland

Properties and Qualities of the Bloomfield Soil

Parent material: Sandy eolian deposits
Drainage class: Somewhat excessively drained
Permeability to a depth of 40 inches: Moderately rapid or rapid
Permeability below a depth of 40 inches: Moderately rapid or rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 5.9 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
Depth to seasonal high water table: More than 6.0 feet all year

Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Low
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: High

Properties and Qualities of the Alvin Soil

Parent material: Loamy and sandy eolian deposits
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately rapid or rapid
Permeability below a depth of 40 inches: Moderately rapid or rapid
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 1.5 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: High

BnuD3—Bonnell-Hickory-Blocher complex, 12 to 25 percent slopes, severely eroded

Setting

Landform: Illinoian till plains
Position on the landform: Backslopes and shoulders

Map Unit Composition

Bonnell and similar soils—33 percent
Hickory and similar soils—27 percent
Blocher and similar soils—25 percent
The well drained Bonnell, eroded, and similar soils, which are on backslopes and shoulders—4 percent
The well drained Hickory, 25 to 50 percent slopes, and similar soils, which are on backslopes—4 percent
The somewhat poorly drained Wakeland, occasionally flooded, very brief duration, and similar soils, which are in narrow drainageways—3 percent
The moderately well drained Blocher, eroded, and similar soils, which are on backslopes and shoulders—2 percent
The moderately well drained Cincinnati, eroded, and similar soils, which are on backslopes and shoulders—2 percent

Interpretive Groups

Land capability classification: Bonnell—6e; Hickory—6e; Blocher—6e
Prime farmland status: Not prime farmland

Properties and Qualities of the Bonnell Soil

Parent material: Very thin loess or loamy materials and the underlying paleosol in till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Hickory Soil

Parent material: Very thin loess and till or till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
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: 0.1 to 2.0 percent
Shrink-swell potential: High

Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Blocher Soil

Parent material: Thin loess and loamy materials and the underlying paleosol in till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow to moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

BobE5—Bonnell-Hickory clay loams, 15 to 30 percent slopes, gullied

Setting

Landform: Illinoian till plains
Position on the landform: Backslopes and shoulders

Map Unit Composition (fig. 6)

Bonnell, gullied, and similar soils—45 percent
Hickory, gullied, and similar soils—30 percent
The well drained Bonnell, 12 to 25 percent slopes, severely eroded, and similar soils, which are on backslopes and shoulders—8 percent
The well drained Hickory, uneroded, and similar soils, which are on backslopes—7 percent
The moderately well drained Cincinnati, eroded, and similar soils, which are on backslopes and shoulders—5 percent
The moderately well drained Blocher and similar soils, which are on backslopes and shoulders—5 percent

Interpretive Groups

Land capability classification: Bonnell—7e; Hickory—7e
Prime farmland status: Not prime farmland

Properties and Qualities of the Bonnell, Gullied, Soil

Parent material: Very thin loess or loamy materials and the underlying till or till
Drainage class: Well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.1 to 1.0 percent
Shrink-swell potential: High
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Hickory, Gullied, Soil

Parent material: Very thin loess and till or till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches

Figure 6.—Gullied area at Camp Atterbury in an area of Bonnell-Hickory clay loams, 15 to 30 percent slopes, gullied.

Content of organic matter in the surface layer: 0.1 to 1.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

BodAV—Bonnie silt loam, 0 to 1 percent slopes, frequently flooded, very brief duration

Setting

Landform: Backswamps and flood plains

Map Unit Composition

Bonnie and similar soils—84 percent
The poorly drained Bonnie, undrained, and similar soils—10 percent
The somewhat poorly drained, coarse-silty soil and similar soils—3 percent
The somewhat poorly drained Stendal and similar soils—3 percent

Interpretive Groups

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

Properties and Qualities of the Bonnie Soil

Parent material: Fine-silty alluvium
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Moderately slow
Depth to restrictive feature: More than 80 inches

Available water capacity: About 12.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): At the surface (January, February, March)
Frequency of ponding: Frequent (December, January, February, March, April, May)
Frequency of flooding: Frequent (January, February, March, April)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

CldB2—Cincinnati-Blocher silt loams, 2 to 6 percent slopes, eroded

Setting

Landform: Illinoian till plains
Position on the landform: Shoulders and summits

Map Unit Composition

Cincinnati and similar soils—50 percent
Blocher and similar soils—45 percent
The moderately well drained Nabb and similar soils, which are on shoulders and summits—5 percent

Interpretive Groups

Land capability classification: Cincinnati—2e; Blocher—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Cincinnati Soil

Parent material: Loess and the underlying paleosol in till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 20 to 36 inches to a fragipan
Available water capacity: About 7.9 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
Perched seasonal high water table is highest (depth, months): 1.7 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Blocher Soil

Parent material: Thin loess and loamy materials and the underlying paleosol in till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

ClfA—Cobbsfork silt loam, 0 to 1 percent slopes

Setting

Landform: Depressions and Illinoian till plains
Position on the landform: Summits

Map Unit Composition

Cobbsfork and similar soils—85 percent
The poorly drained Cobbsfork, undrained, and similar soils, which are on summits—10 percent
The somewhat poorly drained Avonburg and similar soils, which are on summits—5 percent

Interpretive Groups

Land capability classification: Cobbsfork—3w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Cobbsfork Soil

Parent material: Loess and the underlying paleosol in till
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): At the surface (January, February, March)
Frequency of ponding: Frequent (December, January, February, March, April, May)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

CmbAW—Cohoctah loam, 0 to 1 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Cohoctah and similar soils—90 percent
The somewhat poorly drained Shoals and similar soils—10 percent

Interpretive Groups

Land capability classification: Cohoctah—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Cohoctah Soil

Parent material: Coarse-loamy alluvium
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderately rapid
Permeability below a depth of 40 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 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
Apparent seasonal high water table is highest (depth, months): At the surface (January, February, March, April)
Frequency of ponding: Occasional (January, February, March, April, May)
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

CmzA—Cliftycreek silt loam, 0 to 2 percent slopes

Setting

Landform: Bedrock controlled Wisconsin till plains
Position on the landform: Summits

Map Unit Composition

Cliftycreek and similar soils—85 percent
The well drained Milton and similar soils, which are on summits—10 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—5 percent

Interpretive Groups

Land capability classification: Cliftycreek—1
Prime farmland status: Prime farmland

Properties and Qualities of the Cliftycreek Soil

Parent material: Thin loess and till and limestone or dolostone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Impermeable to moderate
Depth to restrictive feature: 60 to 80 inches to bedrock (lithic)

Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

CmzB2—Cliftycreek silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Bedrock controlled Wisconsin till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Cliftycreek and similar soils—85 percent
The well drained Milton and similar soils, which are on summits—10 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—5 percent

Interpretive Groups

Land capability classification: Cliftycreek—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Cliftycreek Soil

Parent material: Thin loess and till and limestone or dolostone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Impermeable to moderate
Depth to restrictive feature: 60 to 80 inches to bedrock (lithic)
Available water capacity: About 10.1 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

CmzC2—Cliftycreek silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: Bedrock controlled Wisconsin till plains
Position on the landform: Backslopes and shoulders

Map Unit Composition

Cliftycreek and similar soils—85 percent
The well drained Milton and similar soils, which are on summits—10 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—5 percent

Interpretive Groups

Land capability classification: Cliftycreek—3e
Prime farmland status: Not prime farmland

Properties and Qualities of the Cliftycreek Soil

Parent material: Thin loess and till and limestone or dolostone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Impermeable to moderate
Depth to restrictive feature: 60 to 80 inches to bedrock (lithic)
Available water capacity: About 10.1 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: High

Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

ColD2—Coolville-Rarden-Stonehead silt loams, 12 to 18 percent slopes, eroded

Setting

Landform: Hills
Position on the landform: Shoulders and backslopes

Map Unit Composition

Coolville and similar soils—37 percent
Rarden and similar soils—33 percent
Stonehead and similar soils—20 percent
The well drained Deam and similar soils, which are on backslopes—5 percent
The well drained Kurtz and similar soils, which are on backslopes—3 percent
The well drained Gnawbone and similar soils, which are on backslopes—2 percent

Interpretive Groups

Land capability classification: Coolville—4e; Rarden—6e; Stonehead—4e
Prime farmland status: Not prime farmland

Properties and Qualities of the Coolville Soil

Parent material: Thin loess and the underlying shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)
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
Perched seasonal high water table is highest (depth, months): 1.0 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Rarden Soil

Parent material: Thin loess and the underlying shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Available water capacity: About 4.8 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
Perched seasonal high water table is highest (depth, months): 1.0 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Stonehead Soil

Parent material: Loess and the underlying shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 44 to 75 inches to bedrock (paralithic)
Available water capacity: About 9.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

ConC3—Coolville-Rarden complex, 6 to 12 percent slopes, severely eroded

Setting

Landform: Hills
Position on the landform: Shoulders and backslopes

Map Unit Composition

Coolville and similar soils—45 percent
Rarden and similar soils—45 percent
The moderately well drained Coolville, eroded, and similar soils, which are on backslopes and shoulders—5 percent
The moderately well drained Stonehead, eroded, and similar soils, which are on backslopes and shoulders—5 percent

Interpretive Groups

Land capability classification: Coolville—4e; Rarden—6e
Prime farmland status: Not prime farmland

Properties and Qualities of the Coolville Soil

Parent material: Thin loess and the underlying shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)
Available water capacity: About 6.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 1.0 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Rarden Soil

Parent material: Very thin loess and the underlying shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Impermeable to moderately slow
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Available water capacity: About 4.8 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
Perched seasonal high water table is highest (depth, months): 1.0 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

CudA—Crosby silt loam, 0 to 2 percent slopes

Setting

Landform: Wisconsin till plains
Position on the landform: Footslopes

Map Unit Composition

Crosby and similar soils—93 percent
The moderately well drained Williamstown and similar soils, which are on backslopes and shoulders—5 percent
The poorly drained Treaty and similar soils, which are on toeslopes on flats or in depressions—2 percent

Interpretive Groups

Land capability classification: Crosby—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Crosby Soil

Parent material: Thin mantle of loess over till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow

Depth to restrictive feature: 20 to 40 inches to dense material
Available water capacity: About 6.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

CulB—Crosby-Williamstown silt loams, 2 to 4 percent slopes

Setting

Landform: Wisconsin till plains
Position on the landform: Footslopes

Map Unit Composition

Crosby and similar soils—65 percent
Williamstown and similar soils—30 percent
The poorly drained Cyclone and similar soils, which are on toeslopes in depressions or swales, or on broad ground moraines—5 percent

Interpretive Groups

Land capability classification: Crosby—2w; Williamstown—2e
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Crosby Soil

Parent material: Thin mantle of loess over till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 20 to 40 inches to dense material
Available water capacity: About 6.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Williamstown Soil

Parent material: Thin mantle of loess over till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 20 to 40 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: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 1.0 feet (January, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

CxdA—Cyclone silty clay loam, 0 to 1 percent slopes

Setting

Landform: Depressions, ground moraines, and swales
Position on the landform: Toeslopes

Map Unit Composition

Cyclone and similar soils—90 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—5 percent
The somewhat poorly drained Fincastle and similar soils, which are on footslopes—5 percent

Interpretive Groups

Land capability classification: Cyclone—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Cyclone Soil

Parent material: Silty material or loess over till
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): At the surface (January, February, December)
Frequency of ponding: Frequent (December, January, February, March)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

DbqE—Deam silt loam, very deep, 15 to 30 percent slopes

Setting

Landform: Hills
Position on the landform: Backslopes

Map Unit Composition

Deam, very deep, and similar soils—75 percent
The well drained Bonnell and similar soils, which are on upper backslopes—10 percent
The moderately well drained Coolville and similar soils, which are on backslopes and shoulders—10 percent
The moderately well drained Rarden and similar soils, which are on backslopes and shoulders—5 percent

Interpretive Groups

Land capability classification: Deam—6e
Prime farmland status: Not prime farmland

Properties and Qualities of the Deam Soil

Parent material: Very thin loess or loamy materials and the underlying shale bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 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: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

EcyAH—Eel loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Channels and flood plains

Map Unit Composition

Eel and similar soils—90 percent
The somewhat poorly drained Shoals and similar soils—10 percent

Interpretive Groups

Land capability classification: Eel—2w
Prime farmland status: Prime farmland if protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Eel Soil

Parent material: Fine-loamy alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.0 inches to a depth of 60 inches

Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 1.5 feet (December)
Ponding: None
Frequency of flooding: Frequent (January, February, March, April, May)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

EcyAW—Eel loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Channels and flood plains (fig. 7)

Map Unit Composition

Eel and similar soils—90 percent
The somewhat poorly drained Shoals and similar soils—10 percent

Interpretive Groups

Land capability classification: Eel—2w
Prime farmland status: Prime farmland

Properties and Qualities of the Eel Soil

Parent material: Fine-loamy alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 1.5 feet (December)

Figure 7.—Sedimentation damage in an area of Eel loam, 0 to 2 percent slopes, and Genesee loam, 0 to 2 percent slopes. Both soils are occasionally flooded for very brief duration.

Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

EdeAW—Eel silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Eel and similar soils—97 percent
The somewhat poorly drained Shoals and similar soils—3 percent

Interpretive Groups

Land capability classification: Eel—2w
Prime farmland status: Prime farmland

Properties and Qualities of the Eel Soil

Parent material: Fine-loamy alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 1.5 feet (December, January, February, March, April)
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

EepAQ—Elkinsville silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Stream terraces
Position on the landform: Summits and shoulders

Map Unit Composition

Elkinsville and similar soils—90 percent
The well drained Elkinsville, 2 to 6 percent slopes, and similar soils—5 percent
The moderately well drained Pekin and similar soils, which are on summits and shoulders—5 percent

Interpretive Groups

Land capability classification: Elkinsville—1
Prime farmland status: Prime farmland

Properties and Qualities of the Elkinsville Soil

Parent material: Thin loess and the underlying alluvium or alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.7 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Rare (November, December, January, February, March, April, May, June, July)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

FdbA—Fincastle silt loam, 0 to 2 percent slopes

Setting

Landform: Wisconsin till plains
Position on the landform: Footslopes

Map Unit Composition

Fincastle and similar soils—84 percent

The poorly drained Cyclone and similar soils, which are on toeslopes on flats or in depressions—10 percent
The moderately well drained Williamstown and similar soils, which are on backslopes and shoulders—6 percent

Interpretive Groups

Land capability classification: Fincastle—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Fincastle Soil

Parent material: Loess over till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

FdqB—Fincastle-Xenia silt loams, 2 to 4 percent slopes

Setting

Landform: Wisconsin till plains
Position on the landform: Footslopes

Map Unit Composition

Fincastle and similar soils—50 percent
Xenia and similar soils—40 percent
The poorly drained Cyclone and similar soils, which are on toeslopes in depressions or on flats—10 percent

Interpretive Groups

Land capability classification: Fincastle—2w; Xenia—2e
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Fincastle Soil

Parent material: Loess over till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Xenia Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 1.5 feet (January, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete

Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

FexA—Fox loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Fox and similar soils—78 percent
The well drained Ockley and similar soils, which are on summits—20 percent
The poorly drained Westland and similar soils, which are on toeslopes in long swales or wide depressions—2 percent

Interpretive Groups

Land capability classification: Fox—2s (fig. 8)
Prime farmland status: Prime farmland

Properties and Qualities of the Fox Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Available water capacity: About 7.1 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete

Figure 8.—Seed corn in an irrigated area of Fox loam, 0 to 2 percent slopes.

Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

FexAQ—Fox loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Fox and similar soils—73 percent
The well drained Ockley and similar soils, which are on summits—20 percent
The somewhat poorly drained Sleeth and similar soils, which are on footslopes in old channels—5 percent
The poorly drained Westland and similar soils, which are on toeslopes in long swales or wide depressions—2 percent

Interpretive Groups

Land capability classification: Fox—2s
Prime farmland status: Prime farmland

Properties and Qualities of the Fox Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Available water capacity: About 7.1 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Rare (November, December, January, February, March, April, May, June, July)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

FexB2—Fox loam, 2 to 6 percent slopes, eroded

Setting

Landform: Stream terraces
Position on the landform: Shoulders and backslopes

Map Unit Composition

Fox and similar soils—78 percent
The well drained Ockley and similar soils, which are on backslopes and shoulders—20 percent
The poorly drained Westland and similar soils, which are on toeslopes in long swales or wide depressions—2 percent

Interpretive Groups

Land capability classification: Fox—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Fox Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Available water capacity: About 7.2 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

FgqC3—Fox-Casco sandy loams, 6 to 12 percent slopes, severely eroded

Setting

Landform: Stream terraces
Position on the landform: Shoulders and backslopes

Map Unit Composition

Fox and similar soils—55 percent
Casco and similar soils—38 percent
The well drained Ockley and similar soils, which are on shoulders—7 percent

Interpretive Groups

Land capability classification: Fox—4e; Casco—4e
Prime farmland status: Not prime farmland

Properties and Qualities of the Fox Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Available water capacity: About 7.2 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Low
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Casco Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Somewhat excessively drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 10 to 20 inches to strongly contrasting textural stratification
Available water capacity: About 4.8 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Low
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

GccAH—Genesee loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Flood plains

Map Unit Composition

Genesee and similar soils—90 percent
The moderately well drained Eel and similar soils, which are in long, narrow channels—10 percent

Interpretive Groups

Land capability classification: Genesee—2w
Prime farmland status: Prime farmland if protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Genesee Soil

Parent material: Fine-loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 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 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Frequent (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

GccAW—Genesee loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Genesee and similar soils—90 percent
The moderately well drained Eel and similar soils, which are in long, narrow channels—10 percent

Interpretive Groups

Land capability classification: Genesee—2w
Prime farmland status: Prime farmland

Properties and Qualities of the Genesee Soil

Parent material: Fine-loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 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 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

GcpAW—Genesee silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Genesee and similar soils—95 percent
The moderately well drained Eel and similar soils—5 percent

Interpretive Groups

Land capability classification: Genesee—2w
Prime farmland status: Prime farmland

Properties and Qualities of the Genesee Soil

Parent material: Fine-loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

GgbG—Gilwood-Brownstown silt loams, 25 to 75 percent slopes

Setting

Landform: Hills and knobs
Position on the landform: Backslopes

Map Unit Composition

Gilwood and similar soils—45 percent
Brownstown and similar soils—35 percent
The well drained Wrays and similar soils, which are on backslopes and shoulders—10 percent
The well drained Gilwood, 12 to 25 percent slopes, and similar soils, which are on backslopes and shoulders—3 percent
The shallow, well drained, loamy soil and similar soils, which are on backslopes on hills or knobs—3 percent
The well drained Beanblossom and similar soils, which are on narrow flood plains or alluvial fans—2 percent
Rock outcrop on escarpments—2 percent

Interpretive Groups

Land capability classification: Gilwood—7e; Brownstown—7e
Prime farmland status: Not prime farmland

Properties and Qualities of the Gilwood Soil

Parent material: Siltstone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Available water capacity: About 5.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Brownstown Soil

Parent material: Siltstone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderately rapid
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Available water capacity: About 3.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 4.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

GgfD2—Gilwood-Wrays silt loams, 12 to 25 percent slopes, eroded

Setting

Landform: Hills
Position on the landform: Shoulders and backslopes

Map Unit Composition

Gilwood and similar soils—40 percent
Wrays and similar soils—32 percent
The well drained Gilwood, severely eroded, and similar soils, which are on backslopes and shoulders—10 percent
The well drained Wrays, severely eroded, and similar soils, which are on backslopes and shoulders—10 percent
The well drained Brownstown and similar soils, which are on backslopes—4 percent
The well drained Beanblossom and similar soils, which are on narrow flood plains or alluvial fans—2 percent
The moderately well drained Spickert and similar soils, which are on summits and shoulders—2 percent

Interpretive Groups

Land capability classification: Gilwood—6e; Wrays—4e
Prime farmland status: Not prime farmland

Properties and Qualities of the Gilwood Soil

Parent material: Siltstone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Available water capacity: About 5.0 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High

Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Wrays Soil

Parent material: Thin loess and the underlying siltstone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 40 to 60 inches to bedrock (lithic)
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: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

HcgAW—Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Haymond and similar soils—82 percent
The well drained Wirt and similar soils—10 percent
The moderately well drained Wilbur and similar soils—5 percent
The well drained Haymond, frequently flooded, very brief duration, and similar soils—3 percent

Interpretive Groups

Land capability classification: Haymond—2w
Prime farmland status: Prime farmland

Properties and Qualities of the Haymond Soil

Parent material: Coarse-silty alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

HctAW—Haymond-Wirt silt loams, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Haymond and similar soils—45 percent
Wirt and similar soils—35 percent
The somewhat poorly drained Wakeland and similar soils—10 percent
The well drained Stonelick, frequently flooded, brief duration, and similar soils, which are on natural levees—5 percent
The moderately well drained Wilbur, occasionally flooded, very brief duration, and similar soils—5 percent

Interpretive Groups

Land capability classification: Haymond—2w; Wirt—2w
Prime farmland status: Prime farmland

Properties and Qualities of the Haymond Soil

Parent material: Coarse-silty alluvium
Drainage class: Well drained

Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Wirt Soil

Parent material: Coarse-loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

HeoF—Hickory silt loam, 25 to 50 percent slopes

Setting

Landform: Illinoian till plains
Position on the landform: Backslopes

Map Unit Composition

Hickory and similar soils—70 percent
The moderately well drained Blocher and similar soils, which are on backslopes and shoulders—10 percent
The well drained Bonnell and similar soils, which are on backslopes and shoulders—10 percent
The well drained Hickory, moderately deep over dense till, and similar soils, which are on backslopes—5 percent
The somewhat poorly drained Holton, occasionally flooded, very brief duration, and similar soils, which are in narrow drainageways—5 percent

Interpretive Groups

Land capability classification: Hickory—7e
Prime farmland status: Not prime farmland

Properties and Qualities of the Hickory Soil

Parent material: Very thin loess and till or till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
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: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

HleAW—Holton silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Holton and similar soils—85 percent
The moderately well drained Oldenburg and similar soils, which are on flood plains—7 percent

The very deep, poorly drained, loamy soil and similar soils, which are in backswamps on flood plains—5 percent
The somewhat poorly drained Holton, frequently flooded, very brief duration, and similar soils, which are on flood plains—3 percent

Interpretive Groups

Land capability classification: Holton—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Holton Soil

Parent material: Coarse-loamy alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 2.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

KugG—Kurtz-Gnawbone silt loams, 20 to 60 percent slopes

Setting

Landform: Hills
Position on the landform: Backslopes

Map Unit Composition

Kurtz and similar soils—53 percent
Gnawbone and similar soils—32 percent
The well drained Beanblossom and similar soils, which are on narrow flood plains or alluvial fans—3 percent
The well drained Kurtz-Gnawbone, stony, and similar soils, which are on backslopes—3 percent
The very deep, well drained colluvial soil and similar soils, which are on backslopes—2 percent
The well drained Brownstown and similar soils, which are on upper backslopes—2 percent
The moderately well drained Coolville and similar soils, which are on backslopes and footslopes—2 percent
The well drained Wellrock and similar soils, which are on backslopes and footslopes—2 percent
The moderately well drained Stonehead and similar soils, which are on shoulders—1 percent

Interpretive Groups

Land capability classification: Kurtz—7e; Gnawbone—7e
Prime farmland status: Not prime farmland

Properties and Qualities of the Kurtz Soil

Parent material: Siltstone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Impermeable to moderate
Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)
Available water capacity: About 7.1 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Gnawbone Soil

Parent material: Siltstone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Available water capacity: About 6.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent

Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

LeaA—Lauer silt loam, 0 to 2 percent slopes

Setting

Landform: Lake plains
Position on the landform: Summits

Map Unit Composition

Lauer and similar soils—90 percent
The poorly drained Zipp and similar soils, which are in depressions on summits—10 percent

Interpretive Groups

Land capability classification: Lauer—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Lauer Soil

Parent material: Loess and stratified silty and clayey lacustrine deposits
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Slow to moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Perched seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

MecAQ—Martinsville loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Martinsville and similar soils—90 percent
The well drained, calcareous, loamy alluvial soil and similar soils, which are on toeslopes—10 percent

Interpretive Groups

Land capability classification: Martinsville—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Martinsville Soil

Parent material: Loamy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Rare (January, February, March, April, May, June, July, November, December)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

MecB—Martinsville loam, 2 to 6 percent slopes

Setting

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

Map Unit Composition

Martinsville and similar soils—95 percent
The well drained Fox and similar soils, which are on backslopes and shoulders—5 percent

Interpretive Groups

Land capability classification: Martinsville—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Martinsville Soil

Parent material: Loamy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
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: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

MfwA—Martinsville loam, sandy substratum, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Martinsville, sandy substratum, and similar soils—97 percent
The somewhat poorly drained Whitaker and similar soils, which are on footslopes in old channels—3 percent

Interpretive Groups

Land capability classification: Martinsville—1
Prime farmland status: Prime farmland

Properties and Qualities of the Martinsville, Sandy Substratum, Soil

Parent material: Loamy outwash over sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate to very rapid
Depth to restrictive feature: 60 to 80 inches to strongly contrasting textural stratification
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

MfwAQ—Martinsville loam, sandy substratum, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Martinsville, sandy substratum, and similar soils—95 percent
The somewhat poorly drained Whitaker and similar soils, which are on footslopes in old channels—5 percent

Interpretive Groups

Land capability classification: Martinsville—1
Prime farmland status: Prime farmland

Properties and Qualities of the Martinsville, Sandy Substratum, Soil

Parent material: Loamy outwash over sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate

Permeability below a depth of 40 inches: Moderate to very rapid
Depth to restrictive feature: 60 to 80 inches to strongly contrasting textural stratification
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Rare (January, February, March, April, May, June, July, November, December)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

MfwB2—Martinsville loam, sandy substratum, 2 to 6 percent slopes, eroded

Setting

Landform: Stream terraces
Position on the landform: Shoulders and backslopes

Map Unit Composition

Martinsville, sandy substratum, and similar soils—87 percent
The well drained Ockley and similar soils, which are on summits and shoulders—10 percent
The somewhat poorly drained Whitaker and similar soils, which are on footslopes in old channels—3 percent

Interpretive Groups

Land capability classification: Martinsville—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Martinsville, Sandy Substratum, Soil

Parent material: Loamy outwash over sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate to very rapid
Depth to restrictive feature: 60 to 80 inches to strongly contrasting textural stratification
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

MfxA—Martinsville sandy loam, sandy substratum, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Martinsville, sandy substratum, and similar soils—95 percent
The very deep, moderately well drained, loamy soil and similar soils, which are on summits—5 percent

Interpretive Groups

Land capability classification: Martinsville, sandy substratum—2s
Prime farmland status: Prime farmland

Properties and Qualities of the Martinsville, Sandy Substratum, Soil

Parent material: Sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate to rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 8.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None

Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

MhuA—McGary silt loam, 0 to 2 percent slopes

Setting

Landform: Lake plains
Position on the landform: Summits

Map Unit Composition

McGary and similar soils—93 percent
The moderately well drained Shircliff and similar soils, which are on summits—7 percent

Interpretive Groups

Land capability classification: McGary—3w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the McGary Soil

Parent material: Very thin loess and fine-textured lacustrine deposits
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Very slow to moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Perched seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

MhyB—Medora silt loam, 2 to 6 percent slopes

Setting

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

Map Unit Composition

Medora and similar soils—85 percent
The very deep, moderately permeable, well drained soil and similar soils, which are on shoulders and summits—10 percent
The moderately well drained Medora, 6 to 12 percent slopes, and similar soils, which are on shoulders and summits—5 percent

Interpretive Groups

Land capability classification: Medora—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Medora Soil

Parent material: Thin loess, loamy materials, and the paleosol in outwash
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow to moderate
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: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

MhyC2—Medora silt loam, 6 to 12 percent slopes, eroded

Setting

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

Map Unit Composition

Medora and similar soils—80 percent
The moderately well drained Medora, severely eroded, and similar soils, which are on backslopes and shoulders—10 percent
The well drained Pike and similar soils, which are on backslopes and shoulders—6 percent
The well drained Chetwynd and similar soils, which are on backslopes and shoulders—4 percent

Interpretive Groups

Land capability classification: Medora—3e
Prime farmland status: Not prime farmland

Properties and Qualities of the Medora Soil

Parent material: Thin loess, loamy materials, and the paleosol in outwash
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow to moderate
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: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

MjjAH—Medway silty clay loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Channels and flood plains

Map Unit Composition

Medway and similar soils—90 percent
The somewhat poorly drained Shoals and similar soils—5 percent
The very poorly drained Sloan and similar soils, which are in backswamps or meander scars—5 percent

Interpretive Groups

Land capability classification: Medway—2w
Prime farmland status: Prime farmland if protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Medway Soil

Parent material: Fine-loamy alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 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: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): 1.5 feet (December, January, February, March, April)
Ponding: None
Frequency of flooding: Frequent (January, February, March, April, May)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

MmoC3—Miami clay loam, 6 to 12 percent slopes, severely eroded

Setting

Landform: Moraines and Wisconsin till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Miami and similar soils—97 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—3 percent

Interpretive Groups

Land capability classification: Miami—4e
Prime farmland status: Not prime farmland

Properties and Qualities of the Miami Soil

Parent material: Till

Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to dense material
Available water capacity: About 5.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.0 to 1.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

MmoD3—Miami clay loam, 12 to 18 percent slopes, severely eroded

Setting

Landform: Moraines and Wisconsin till plains
Position on the landform: Backslopes and shoulders

Map Unit Composition

Miami and similar soils—97 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—3 percent

Interpretive Groups

Land capability classification: Miami—6e
Prime farmland status: Not prime farmland

Properties and Qualities of the Miami Soil

Parent material: Till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to dense material
Available water capacity: About 5.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.0 to 1.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

MnpB2—Miami silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Moraines and Wisconsin till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Miami and similar soils—85 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—13 percent
The poorly drained Cyclone and similar soils, which are on toeslopes in depressions or swales, or on broad ground moraines—2 percent

Interpretive Groups

Land capability classification: Miami—2e
Prime farmland status: Prime farmland (fig. 9)

Properties and Qualities of the Miami Soil

Parent material: Thin loess over till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to dense material
Available water capacity: About 6.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent

Figure 9.—No-till beans planted in wheat stubble in an area of Miami silt loam, 2 to 6 percent slopes, eroded.

Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

MnpC2—Miami silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: Moraines and Wisconsin till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Miami and similar soils—95 percent
The poorly drained Cyclone and similar soils, which are on toeslopes in depressions or swales, or on broad ground moraines—3 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—2 percent

Interpretive Groups

Land capability classification: Miami—3e
Prime farmland status: Not prime farmland

Properties and Qualities of the Miami Soil

Parent material: Thin loess over till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to dense material

Available water capacity: About 6.2 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
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

MnpD2—Miami silt loam, 12 to 18 percent slopes, eroded

Setting

Landform: Moraines and Wisconsin till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Miami and similar soils—95 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—5 percent

Interpretive Groups

Land capability classification: Miami—4e
Prime farmland status: Not prime farmland

Properties and Qualities of the Miami Soil

Parent material: Thin loess over till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to dense material
Available water capacity: About 6.2 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
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

MqbA—Milton silt loam, 0 to 2 percent slopes

Setting

Landform: Strath terraces
Position on the landform: Summits

Map Unit Composition

Milton and similar soils—95 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—5 percent

Interpretive Groups

Land capability classification: Milton—2s
Prime farmland status: Prime farmland

Properties and Qualities of the Milton Soil

Parent material: Outwash or till and limestone or fine grained calcareous sandstone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Available water capacity: About 6.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

MqbB2—Milton silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Strath terraces
Position on the landform: Shoulders and backslopes

Map Unit Composition

Milton and similar soils—100 percent

Interpretive Groups

Land capability classification: Milton—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Milton Soil

Parent material: Outwash or till and limestone or fine grained calcareous sandstone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Available water capacity: About 6.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

MqbC2—Milton silt loam, 6 to 12 percent slopes, eroded

Setting

Landform: Strath terraces
Position on the landform: Backslopes and shoulders

Map Unit Composition

Milton and similar soils—100 percent

Interpretive Groups

Land capability classification: Milton—3e
Prime farmland status: Not prime farmland

Properties and Qualities of the Milton Soil

Parent material: Outwash or till and limestone or fine grained calcareous sandstone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Available water capacity: About 6.0 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

MrbF—Milton-Rock outcrop complex, 25 to 40 percent slopes

Setting

Landform: Wisconsin till plains
Position on the landform: Backslopes

Map Unit Composition (fig. 10)

Milton and similar soils—75 percent
Rock outcrop—15 percent
The well drained Senachwine and similar soils, which are on backslopes on bedrock controlled Wisconsin till plains—10 percent

Interpretive Groups

Land capability classification: Milton—7e; Rock outcrop—none assigned
Prime farmland status: Not prime farmland

Properties and Qualities of the Milton Soil

Parent material: Till and limestone or fine grained calcareous sandstone bedrock
Drainage class: Well drained

Permeability to a depth of 40 inches: Impermeable to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Available water capacity: About 4.8 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Very high

Figure 10.—Hardwoods on the edge of a bedrock escarpment in an area of Milton silt loam.

Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

NaaB2—Nabb silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Illinoian till plains
Position on the landform: Backslopes, shoulders, and summits

Map Unit Composition

Nabb and similar soils—78 percent
The moderately well drained Cincinnati and similar soils, which are on backslopes, shoulders, and summits—10 percent
The somewhat poorly drained Avonburg, eroded, and similar soils, which are on shoulders and summits—8 percent
The somewhat poorly drained Wakeland, occasionally flooded, very brief duration, and similar soils, which are in narrow drainageways—4 percent

Interpretive Groups

Land capability classification: Nabb—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Nabb Soil

Parent material: Loess and the underlying paleosol in till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to a fragipan
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

NpcA—Nineveh gravelly sandy loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Nineveh and similar soils—90 percent
The well drained Ockley and similar soils, which are on summits—7 percent
The poorly drained Rensselaer and similar soils, which are on toeslopes in depressions or narrow swales—3 percent

Interpretive Groups

Land capability classification: Nineveh—2s
Prime farmland status: Prime farmland

Properties and Qualities of the Nineveh Soil

Parent material: Gravelly loamy outwash over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 24 to 40 inches to strongly contrasting textural stratification
Available water capacity: About 4.4 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to water erosion: Very low

NpcAQ—Nineveh gravelly sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Nineveh and similar soils—90 percent
The well drained Rossburg and similar soils, which are on flood plains—10 percent

Interpretive Groups

Land capability classification: Nineveh—2s
Prime farmland status: Prime farmland

Properties and Qualities of the Nineveh Soil

Parent material: Gravelly loamy outwash over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 24 to 40 inches to strongly contrasting textural stratification
Available water capacity: About 4.4 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Rare (January, February, March, April, May, June, July, November, December)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to water erosion: Very low

NpeA—Nineveh sandy loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Nineveh and similar soils—97 percent
The somewhat poorly drained Sleeth and similar soils, which are on footslopes in old channels—3 percent

Interpretive Groups

Land capability classification: Nineveh—2s
Prime farmland status: Prime farmland

Properties and Qualities of the Nineveh Soil

Parent material: Loamy outwash over gravelly sandy outwash

Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 24 to 40 inches to strongly contrasting textural stratification
Available water capacity: About 7.1 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

NpeAQ—Nineveh sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Nineveh and similar soils—97 percent
The somewhat poorly drained Sleeth and similar soils, which are on footslopes in old channels—3 percent

Interpretive Groups

Land capability classification: Nineveh—2s
Prime farmland status: Prime farmland

Properties and Qualities of the Nineveh Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 24 to 40 inches to strongly contrasting textural stratification
Available water capacity: About 7.1 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Rare (January, February, March, April, May, June, July, November, December)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

NpeB2—Nineveh sandy loam, 2 to 6 percent slopes, eroded

Setting

Landform: Stream terraces
Position on the landform: Shoulders and backslopes

Map Unit Composition

Nineveh and similar soils—97 percent
The somewhat poorly drained Sleeth and similar soils, which are on footslopes in old channels—3 percent

Interpretive Groups

Land capability classification: Nineveh—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Nineveh Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 24 to 40 inches to strongly contrasting textural stratification
Available water capacity: About 7.1 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

ObaA—Ockley loam, 0 to 2 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Ockley and similar soils—80 percent
The well drained Fox and similar soils, which are on summits—10 percent
The somewhat poorly drained Sleeth and similar soils, which are on footslopes in old channels—10 percent

Interpretive Groups

Land capability classification: Ockley—1
Prime farmland status: Prime farmland

Properties and Qualities of the Ockley Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate to very rapid
Depth to restrictive feature: 40 to 72 inches strongly contrasting textural stratification
Available water capacity: About 9.1 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

OfaAW—Oldenburg silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Oldenburg and similar soils—85 percent
The somewhat poorly drained Holton and similar soils—10 percent
The moderately well drained Oldenburg, frequently flooded, very brief duration, and similar soils—5 percent

Interpretive Groups

Land capability classification: Oldenburg—2w
Prime farmland status: Prime farmland

Properties and Qualities of the Oldenburg Soil

Parent material: Coarse-loamy alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 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: 1.0 to 2.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 1.5 feet (January, February, March)
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Omz—Orthents, earthen dam

Map Unit Composition

Orthents, earthen dam—100 percent

General Description

This map unit generally consists of areas of mixed soil material used for the impoundment of water. These areas include spillways or small sites from which soil material has been removed to provide fill material for the dam.

PcrB2—Pekin silt loam, 2 to 6 percent slopes, eroded

Setting

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

Map Unit Composition

Pekin and similar soils—85 percent
The somewhat poorly drained Bartle and similar soils, which are on summits—10 percent
The well drained Elkinsville and similar soils, which are on backslopes—5 percent

Interpretive Groups

Land capability classification: Pekin—2e (fig. 11)
Prime farmland status: Prime farmland

Properties and Qualities of the Pekin Soil

Parent material: Thin loess and the underlying alluvium or alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow to moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Perched seasonal high water table is highest (depth, months): 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Figure 11.—Fescue and red clover in an area of Pekin soils.

PcrC2—Pekin silt loam, 6 to 12 percent slopes, eroded

Setting

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

Map Unit Composition

Pekin and similar soils—72 percent
The moderately well drained Pekin, severely eroded, and similar soils, which are on backslopes—14 percent
The well drained Elkinsville and similar soils, which are on backslopes—5 percent
The moderately well drained Pekin, 12 to 18 percent slopes, and similar soils, which are on backslopes—5 percent
The somewhat poorly drained Stendal and similar soils, which are on flood plains—4 percent

Interpretive Groups

Land capability classification: Pekin—3e
Prime farmland status: Not prime farmland

Properties and Qualities of the Pekin Soil

Parent material: Thin loess and the underlying alluvium or alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow to moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Perched seasonal high water table is highest (depth, months): 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

PcrC3—Pekin silt loam, 6 to 12 percent slopes, severely eroded

Setting

Landform: Stream terraces
Position on the landform: Shoulders and backslopes

Map Unit Composition

Pekin and similar soils—71 percent
The moderately well drained Pekin, eroded, and similar soils,which are on backslopes and shoulders—15 percent
The well drained Elkinsville and similar soils, which are on backslopes—5 percent
The moderately well drained Pekin, 12 to 18 percent slopes, and similar soils, which are on backslopes—5 percent
The somewhat poorly drained Stendal and similar soils, which are on flood plains—4 percent

Interpretive Groups

Land capability classification: Pekin—4e
Prime farmland status: Not prime farmland

Properties and Qualities of the Pekin Soil

Parent material: Thin loess and the underlying alluvium or alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow to moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.5 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
Perched seasonal high water table is highest (depth, months): 1.0 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

PhaA—Peoga silt loam, 0 to 1 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Summits

Map Unit Composition

Peoga and similar soils—83 percent
The poorly drained Peoga, undrained, and similar soils, which are in depressions on summits—10 percent
The somewhat poorly drained soil and similar soils, which are on summits—5 percent
The somewhat poorly drained Bartle and similar soils, which are on summits—2 percent

Interpretive Groups

Land capability classification: Peoga—3w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Peoga Soil

Parent material: Loess and the underlying paleosol in loamy lacustrine sediments or alluvium
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Perched seasonal high water table is highest (depth, months): At the surface (January, February, March)
Frequency of ponding: Frequent (December, January, February, March, April, May)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

PlpAV—Piopolis silty clay loam, 0 to 1 percent slopes, frequently flooded, very brief duration

Setting

Landform: Backswamps and flood plains

Map Unit Composition

Piopolis and similar soils—97 percent
The somewhat poorly drained Stendal and similar soils—3 percent

Interpretive Groups

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

Properties and Qualities of the Piopolis Soil

Parent material: Fine-silty alluvium
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Slow or moderately slow
Permeability below a depth of 40 inches: Slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): At the surface (January, February, March)
Frequency of ponding: Frequent (December, January, February, March, April, May)
Frequency of flooding: Frequent (January, February, March, April)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Pml—Pits, quarry

Map Unit Composition

Pits, quarry—100 percent

General Description

This map unit consists of areas where the surface soil has been removed and limestone bedrock has been extracted for construction material. Most of the area is the actual pit, and some of the area is piles of broken rock, or mixed rock and soil material.

PnnD—Pike-Chetwynd silt loams, 12 to 20 percent slopes

Setting

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

Map Unit Composition

Pike and similar soils—60 percent
Chetwynd and similar soils—30 percent
The moderately well drained Medora and similar soils, which are on shoulders—10 percent

Interpretive Groups

Land capability classification: Pike—4e; Chetwynd—4e
Prime farmland status: Not prime farmland

Properties and Qualities of the Pike Soil

Parent material: Loess and the underlying paleosol in loamy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Chetwynd Soil

Parent material: Very thin loess and outwash or outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 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: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

PnnF—Pike-Chetwynd silt loams, 20 to 50 percent slopes

Setting

Landform: Outwash plains
Position on the landform: Backslopes

Map Unit Composition

Pike and similar soils—55 percent
Chetwynd and similar soils—35 percent
The well drained soils with 20 to 40 inches of loess, which are on backslopes—10 percent

Interpretive Groups

Land capability classification: Pike—7e; Chetwynd—7e
Prime farmland status: Not prime farmland

Properties and Qualities of the Pike Soil

Parent material: Loess and the underlying paleosol in loamy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 4.0 percent
Shrink-swell potential: Moderate

Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Chetwynd Soil

Parent material: Very thin loess and outwash or outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 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: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Ppu—Pits, sand and gravel

Map Unit Composition

Pits, sand and gravel—80 percent
Udorthents, loamy—10 percent
Water—10 percent

General Description

This map unit consists of areas where the surface soil has been removed and sand and gravel has been extracted for construction material. Most of the area is the actual pit, and some of the area is stock piles of stripped soil material.

RctD3—Rarden-Coolville complex, 12 to 22 percent slopes, severely eroded

Setting

Landform: Hills
Position on the landform: Backslopes and shoulders

Map Unit Composition

Rarden and similar soils—40 percent
Coolville and similar soils—19 percent
The moderately well drained Rarden, eroded, and similar soils, which are on backslopes and shoulders—14 percent
The well drained Deam and similar soils, which are on backslopes—13 percent
The moderately well drained Coolville, eroded, and similar soils, which are on backslopes and shoulders—7 percent
The moderately well drained Stonehead and similar soils, which are on shoulders—7 percent

Interpretive Groups

Land capability classification: Rarden—7e; Coolville—6e
Prime farmland status: Not prime farmland

Properties and Qualities of the Rarden Soil

Parent material: Very thin loess and the underlying shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Impermeable to moderately slow
Permeability below a depth of 40 inches: Impermeable or very slow
Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)
Available water capacity: About 4.0 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
Perched seasonal high water table is highest (depth, months): 1.0 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High

Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Coolville Soil

Parent material: Thin loess and the underlying shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)
Available water capacity: About 6.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 1.0 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

RehA—Rensselaer-Treaty silt loams, 0 to 1 percent slopes

Setting

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

Map Unit Composition

Rensselaer and similar soils—60 percent
Treaty and similar soils—40 percent

Interpretive Groups

Land capability classification: Rensselaer—2w; Treaty—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Rensselaer Soil

Parent material: Thin loess over loamy outwash
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
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: 3.0 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): At the surface (December, January, February)
Frequency of ponding: Frequent (December, January, February, March)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Treaty Soil

Parent material: Loess over till
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): At the surface (December, January, February)
Frequency of ponding: Frequent (December, January, February, March)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

ReyA—Rensselaer loam, 0 to 1 percent slopes

Setting

Landform: Depressions, interdunes, stream terraces, and swales
Position on the landform: Toeslopes

Map Unit Composition (fig. 12)

Rensselaer and similar soils—95 percent
The somewhat poorly drained Whitaker and similar soils, which are on footslopes in old channels—5 percent

Interpretive Groups

Land capability classification: Rensselaer—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Rensselaer Soil

Parent material: Loamy outwash
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
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: 3.0 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): At the surface (December, January, February)
Frequency of ponding: Frequent (December, January, February, March)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Figure 12.—Historic Breeding Farm. Areas of Rensselaer loam, 0 to 1 percent slopes, and Whitaker loam, 0 to 2 percent slopes, are in the foreground. An area of Alvin-Princeton fine sandy loams, 6 to 12 percent slopes, eroded, is in the background.

ReyAQ—Rensselaer loam, 0 to 1 percent slopes, rarely flooded

Setting

Landform: Depressions, stream terraces, and swales
Position on the landform: Toeslopes

Map Unit Composition

Rensselaer and similar soils—95 percent
The somewhat poorly drained Whitaker and similar soils, which are on footslopes in old channels—5 percent

Interpretive Groups

Land capability classification: Rensselaer—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Rensselaer Soil

Parent material: Loamy outwash
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
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: 3.0 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): At the surface (December, January, February)
Frequency of ponding: Frequent (December, January, February, March)
Frequency of flooding: Rare (January, February, March, April, May, June, July, November, December)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

RqaG—Rodman sandy loam, 25 to 50 percent slopes

Setting

Landform: Stream terraces
Position on the landform: Backslopes

Map Unit Composition

Rodman and similar soils—95 percent
The moderately well drained Eel and similar soils, which are on flood plains—5 percent

Interpretive Groups

Land capability classification: Rodman—7e
Prime farmland status: Not prime farmland

Properties and Qualities of the Rodman Soil

Parent material: Loamy and gravelly outwash over sandy and gravelly outwash
Drainage class: Excessively drained
Permeability to a depth of 40 inches: Moderately rapid to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 10 to 18 inches to strongly contrasting textural stratification
Available water capacity: About 3.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 2.0 to 6.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Low
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Moderately high

RtxAH—Rossburg silt loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Flood plains

Map Unit Composition

Rossburg and similar soils—90 percent
The moderately well drained Medway and similar soils, which are in long, narrow channels—5 percent
The very poorly drained Sloan and similar soils, which are in backswamps or meander scars—5 percent

Interpretive Groups

Land capability classification: Rossburg—2w

Prime farmland status: Prime farmland if protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Rossburg Soil

Parent material: Fine-loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 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: 2.0 to 4.5 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Frequent (January, February, March, April, May)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

RtxAK—Rossburg silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration

Setting

Landform: Flood plains

Map Unit Composition

Rossburg and similar soils—90 percent
The moderately well drained Medway and similar soils, which are in long, narrow channels—5 percent
The very poorly drained Sloan and similar soils, which are in backswamps or meander scars—5 percent

Interpretive Groups

Land capability classification: Rossburg—2w
Prime farmland status: Prime farmland

Properties and Qualities of the Rossburg Soil

Parent material: Fine-loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 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: 2.0 to 4.5 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

RywB2—Russell silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Wisconsin till plains
Position on the landform: Backslopes and shoulders

Map Unit Composition

Russell and similar soils—76 percent
The moderately well drained Williamstown and similar soils, which are on backslopes and shoulders—15 percent
The somewhat poorly drained Fincastle and similar soils, which are on footslopes—5 percent
The well drained Russell, severely eroded, and similar soils, which are on shoulders—3 percent
The poorly drained soil and similar soils, which are on toeslopes in depressions—1 percent

Interpretive Groups

Land capability classification: Russell—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Russell Soil

Parent material: Loess over till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 9.8 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
Perched seasonal high water table is highest (depth, months): 3.5 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

SfyA—Shircliff silt loam, 0 to 2 percent slopes

Setting

Landform: Lake plains
Position on the landform: Summits

Map Unit Composition

Shircliff and similar soils—90 percent
The well drained soils that formed in a thicker layer of loess, which are on summits—10 percent

Interpretive Groups

Land capability classification: Shircliff—2w
Prime farmland status: Prime farmland

Properties and Qualities of the Shircliff Soil

Parent material: Very thin loess and the underlying calcareous, fine-textured lacustrine deposits
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Slow or moderately slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: High
Perched seasonal high water table is highest (depth, months): 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

SifE—Senachwine loam, 18 to 25 percent slopes

Setting

Landform: Wisconsin till plains
Position on the landform: Backslopes

Map Unit Composition

Senachwine and similar soils—90 percent
The well drained Senachwine, severely eroded, and similar soils, which are on backslopes—5 percent
The somewhat poorly drained Shoals and similar soils which are in long, narrow channels on flood plains—5 percent

Interpretive Groups

Land capability classification: Senachwine—6e
Prime farmland status: Not prime farmland

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

SifG—Senachwine loam, 25 to 70 percent slopes

Setting

Landform: Wisconsin till plains
Position on the landform: Backslopes

Map Unit Composition

Senachwine and similar soils—90 percent
The well drained Senachwine, severely eroded, and similar soils, which are on backslopes—5 percent
The somewhat poorly drained Shoals and similar soils, which are in long, narrow channels on flood plains—5 percent

Interpretive Groups

Land capability classification: Senachwine—7e
Prime farmland status: Not prime farmland

Properties and Qualities of the Senachwine Soil

Parent material: Till
Drainage class: Well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 6.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

SldAH—Shoals silt loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Channels and flood plains

Map Unit Composition

Shoals and similar soils—90 percent
The very poorly drained Sloan and similar soils, which are in backswamps or meander scars on flood plains—10 percent

Interpretive Groups

Land capability classification: Shoals—2w (fig. 13)
Prime farmland status: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Shoals Soil

Parent material: Fine-loamy alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 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: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Frequency of flooding: Frequent (January, February, March, April, May)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

SldAW—Shoals silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Channels and flood plains

Map Unit Composition

Shoals and similar soils—90 percent
The very poorly drained Sloan and similar soils, which are in backswamps or meander scars—10 percent

Interpretive Groups

Land capability classification: Shoals—2w
Prime farmland status: Prime farmland where drained

Figure 13.—Crop residue deposited by floodwaters in an area of Shoals silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration.

Properties and Qualities of the Shoals Soil

Parent material: Fine-loamy alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 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: 2.0 to 4.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for oncrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

SnfA—Sleeth loam, 0 to 2 percent slopes

Setting

Landform: Channels and stream terraces
Position on the landform: Footslopes

Map Unit Composition

Sleeth and similar soils—97 percent
The poorly drained Westland and similar soils, which are on toeslopes in long swales or wide depressions—3 percent

Interpretive Groups

Land capability classification: Sleeth—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Sleeth Soil

Parent material: Gravelly loamy outwash over gravelly sandy outwash

Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate to very rapid
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

SoaB—Spickert silt loam, 2 to 6 percent slopes

Setting

Landform: Hills
Position on the landform: Summits

Map Unit Composition

Spickert and similar soils—85 percent
The well drained Wrays and similar soils, which are on shoulders—10 percent
The very deep, somewhat poorly drained, silty soil and similar soils, which are on summits—5 percent

Interpretive Groups

Land capability classification: Spickert—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Spickert Soil

Parent material: Thin loess and siltstone bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 50 to 80 inches to bedrock (lithic)
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

SocAH—Sloan silty clay loam, 0 to 1 percent slopes, frequently flooded, brief duration

Setting

Landform: Backswamps, flood plains, and meander scars

Map Unit Composition

Sloan and similar soils—85 percent
The somewhat poorly drained Shoals and similar soils, which are in long, narrow channels—10 percent
The very poorly drained Bellcreek and similar soils—5 percent

Interpretive Groups

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

Properties and Qualities of the Sloan Soil

Parent material: Fine-loamy alluvium
Drainage class: Very poorly drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Moderately slow or moderate
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: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): At the surface (January, February, March, April, November, December)

Frequency of ponding: Frequent (December, January, February, March)
Frequency of flooding: Frequent (January, February, March, April)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

SocAW—Sloan silty clay loam, 0 to 1 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Backswamps, flood plains, and meander scars

Map Unit Composition

Sloan and similar soils—85 percent
The somewhat poorly drained Shoals and similar soils, which are in long, narrow channels—10 percent
The very poorly drained Bellcreek and similar soils—5 percent

Interpretive Groups

Land capability classification: Sloan—3w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Sloan Soil

Parent material: Fine-loamy alluvium
Drainage class: Very poorly drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Moderately slow or moderate
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: 3.0 to 5.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): At the surface (January, February, March, April, November, December)
Frequency of ponding: Frequent (December, January, February, March)
Frequency of flooding: Occasional (January, February, March, April, May, June, November, December)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

SoeC2—Spickert-Wrays silt loams, 6 to 18 percent slopes, eroded

Setting

Landform: Hills
Position on the landform: Shoulders and backslopes

Map Unit Composition

Spickert and similar soils—60 percent
Wrays and similar soils—25 percent
The well drained Gilwood and similar soils, which are on backslopes—5 percent
The moderately well drained Spickert, severely eroded, and similar soils, which are on backslopes and shoulders—5 percent
The well drained Wrays, severely eroded, and similar soils, which are on backslopes and shoulders—5 percent

Interpretive Groups

Land capability classification: Spickert—3e; Wrays—4e
Prime farmland status: Not prime farmland

Properties and Qualities of the Spickert Soil

Parent material: Thin loess and siltstone bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 60 to 90 inches to bedrock (lithic)
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: High

Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Wrays Soil

Parent material: Thin loess and siltstone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 40 to 60 inches to bedrock (lithic)
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: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

SolC2—Spickert-Wrays silt loams, 6 to 12 percent slopes, eroded

Setting

Landform: Hills
Position on the landform: Shoulders and backslopes

Map Unit Composition

Spickert and similar soils—44 percent
Wrays and similar soils—32 percent
The well drained Gilwood and similar soils, which are on backslopes—10 percent
The moderately well drained Spickert, severely eroded, and similar soils, which are on backslopes and shoulders—7 percent
The well drained Wrays, severely eroded, and similar soils, which are on backslopes and shoulders—5 percent
The well drained Wrays, 12 to 20 percent slopes, and similar soils, which are on backslopes and shoulders—2 percent

Interpretive Groups

Land capability classification: Spickert—3e; Wrays—3e
Prime farmland status: Not prime farmland

Properties and Qualities of the Spickert Soil

Parent material: Thin loess and siltstone bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 60 to 90 inches to bedrock (lithic)
Available water capacity: About 8.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Wrays Soil

Parent material: Thin loess and siltstone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 40 to 60 inches to bedrock (lithic)
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: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High

Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

SolC3—Spickert-Wrays silt loams, 6 to 12 percent slopes, severely eroded

Setting

Landform: Hills
Position on the landform: Backslopes and shoulders

Map Unit Composition

Spickert and similar soils—44 percent
Wrays and similar soils—32 percent
The well drained Gilwood and similar soils, which are on backslopes—10 percent
The moderately well drained Spickert, eroded, and similar soils, which are on backslopes and shoulders—7 percent
The well drained Wrays, eroded, and similar soils, which are on backslopes and shoulders—5 percent
The well drained Wrays, 12 to 20 percent slopes, and similar soils, which are on backslopes and shoulders—2 percent

Interpretive Groups

Land capability classification: Spickert—4e; Wrays—4e
Prime farmland status: Not prime farmland

Properties and Qualities of the Spickert Soil

Parent material: Thin loess and siltstone bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 60 to 90 inches to bedrock (lithic)
Available water capacity: About 6.2 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
Perched seasonal high water table is highest (depth, months): 1.0 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Wrays Soil

Parent material: Thin loess and siltstone bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 40 to 60 inches bedrock (lithic)
Available water capacity: About 7.2 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

StaAV—Steff silt loam, 0 to 2 percent slopes, frequently flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Steff and similar soils—88 percent
The somewhat poorly drained Stendal and similar soils—10 percent
The well drained soil and similar soils—2 percent

Interpretive Groups

Land capability classification: Steff—2w
Prime farmland status: Prime farmland if protected

from flooding or not frequently flooded during the growing season

Properties and Qualities of the Steff Soil

Parent material: Acid, fine-silty alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 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: Low
Apparent seasonal high water table is highest (depth, months): 1.5 feet (January, February, March)
Ponding: None
Frequency of flooding: Frequent (January, February, March, April)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

StdAQ—Stendal silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Flood-plain steps

Map Unit Composition

Stendal and similar soils—88 percent
The poorly drained Bonnie and similar soils, which are in backswamps on flood plains—5 percent
The somewhat poorly drained Stendal, occasionally flooded, very brief duration, and similar soils, which are on flood plains—3 percent
The moderately well drained Steff and similar soils—4 percent

Interpretive Groups

Land capability classification: Stendal—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Stendal Soil

Parent material: Acid, fine-silty alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Frequency of flooding: Rare (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

StdAV—Stendal silt loam, 0 to 2 percent slopes, frequently flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Stendal and similar soils—89 percent
The poorly drained Bonnie and similar soils, which are in backswamps—5 percent
The moderately well drained Steff and similar soils—4 percent
The poorly drained Piopolis and similar soils, which are in backswamps—2 percent

Interpretive Groups

Land capability classification: Stendal—2w
Prime farmland status: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Stendal Soil

Parent material: Acid, fine-silty alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.8 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent

Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Frequency of flooding: Frequent (January, February, March, April)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

StmB—Stonehead silt loam, 2 to 6 percent slopes

Setting

Landform: Hills
Position on the landform: Summits

Map Unit Composition

Stonehead and similar soils—85 percent
The moderately well drained Coolville and similar soils, which are on shoulders—5 percent
The moderately well drained Stonehead, eroded, and similar soils, which are on backslopes and shoulders—5 percent
The moderately well drained soil with fragic horizons and similar soils, which are on backslopes and shoulders—5 percent

Interpretive Groups

Land capability classification: Stonehead—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Stonehead Soil

Parent material: Loess and siltstone or shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 44 to 75 inches to bedrock (paralithic)
Available water capacity: About 9.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 4.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

SucC2—Stonehead-Coolville silt loams, 6 to 12 percent slopes, eroded

Setting

Landform: Hills
Position on the landform: Backslopes and shoulders

Map Unit Composition

Stonehead and similar soils—52 percent
Coolville and similar soils—20 percent
The moderately well drained Rarden and similar soils, which are on backslopes and shoulders—10 percent
The moderately well drained Blocher, soft bedrock substratum, and similar soils, which are on upper backslopes and shoulders on till plains—7 percent
The moderately well drained Wellrock and similar soils, which are on backslopes and shoulders—7 percent
The well drained Gnawbone and similar soils, which are on backslopes—2 percent
The moderately well drained Stonehead, 2 to 6 percent slopes, and similar soils, which are on summits—2 percent

Interpretive Groups

Land capability classification: Stonehead—3e; Coolville—3e
Prime farmland status: Not prime farmland

Properties and Qualities of the Stonehead Soil

Parent material: Loess and siltstone or shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 44 to 75 inches to bedrock (paralithic)
Available water capacity: About 8.9 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
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Coolville Soil

Parent material: Thin loess and siltstone or shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)
Available water capacity: About 6.9 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
Perched seasonal high water table is highest (depth, months): 1.0 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

SujD5—Stonehead silt loam, 10 to 20 percent slopes, gullied

Setting

Landform: Hills
Position on the landform: Shoulders and backslopes

Map Unit Composition

Stonehead, gullied, and similar soils—72 percent
The moderately well drained Coolville, gullied, and similar soils, which are on backslopes and shoulders—14 percent
The moderately well drained Rarden, gullied, and similar soils, which are on backslopes and shoulders—14 percent

Interpretive Groups

Land capability classification: Stonehead—6e
Prime farmland status: Not prime farmland

Properties and Qualities of the Stonehead, Gullied, Soil

Parent material: Thin loess and siltstone or shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)
Available water capacity: About 6.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.0 to 1.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 1.0 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Accelerated erosion: The surface layer is mostly subsoil material.
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

SulC2—Stonehead-Wellrock silt loams, 6 to 15 percent slopes, eroded

Setting

Landform: Hills
Position on the landform: Shoulders and backslopes

Map Unit Composition

Stonehead and similar soils—55 percent
Wellrock and similar soils—25 percent
The moderately well drained Coolville and similar soils, which are on backslopes and shoulders—7 percent

The well drained Gnawbone and similar soils, which are on backslopes—5 percent
The well drained Kurtz and similar soils, which are on backslopes—5 percent
The moderately well drained Stonehead, 2 to 6 percent slopes, and similar soils, which are on summits—3 percent

Interpretive Groups

Land capability classification: Stonehead—3e; Wellrock—4e
Prime farmland status: Not prime farmland

Properties and Qualities of the Stonehead Soil

Parent material: Loess and siltstone or shale bedrock
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Impermeable to slow
Depth to restrictive feature: 44 to 75 inches to bedrock (paralithic)
Available water capacity: About 8.9 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
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Wellrock Soil

Parent material: Thin loess and siltstone or shale bedrock
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Impermeable to moderately slow
Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)
Available water capacity: About 8.5 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

SuoAH—Stonelick fine sandy loam, 0 to 2 percent slopes, frequently flooded, brief duration

Setting

Landform: Flood plains

Map Unit Composition

Stonelick and similar soils—100 percent

Interpretive Groups

Land capability classification: Stonelick—3w
Prime farmland status: Prime farmland if protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Stonelick Soil

Parent material: Coarse-loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately rapid
Permeability below a depth of 40 inches: Moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Frequent (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Uaz—Udorthents, sandy

Map Unit Composition

Udorthents, sandy, and similar soils—100 percent

General Description

Generally, this map unit consists of areas of mixed sandy soil materials. These areas are old sand and gravel pits, areas from which fill materials have been borrowed, or areas of the fill material itself.

Uby—Udorthents, loamy

Map Unit Composition

Udorthents, loamy, and similar soils—100 percent

General Description

Generally, this map unit consists of areas of mixed loamy soil materials. These are areas from which fill materials have been borrowed or areas of the fill material itself.

UemB—Urban land-Alvin-Princeton complex, 2 to 6 percent slopes

Setting

Landform: Urban areas and dunes

Map Unit Composition

Urban land—50 percent
Alvin and similar soils—23 percent
Princeton and similar soils—17 percent
The somewhat excessively drained Bloomfield and similar soils, which are on backslopes and shoulders—5 percent
The moderately well drained Miami and similar soils, which are on backslopes and shoulders—3 percent
The somewhat poorly drained Ayrshire and similar soils, which are on footslopes of interdunes on terraces and till plains—2 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Alvin—2e; Princeton—2e
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Alvin Soil

Parent material: Loamy and sandy eolian deposits
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately rapid
Permeability below a depth of 40 inches: Moderately rapid or 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 2.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

Properties and Qualities of the Princeton Soil

Parent material: Silt and fine sand eolian deposits
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate to rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

UemC—Urban land-Alvin-Princeton complex, 6 to 12 percent slopes

Setting

Landform: Urban areas and dunes

Map Unit Composition

Urban land—50 percent
Alvin and similar soils—25 percent
Princeton and similar soils—17 percent
The moderately well drained Miami and similar soils, which are on backslopes and shoulders—8 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Alvin—3e; Princeton—3e
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Alvin Soil

Parent material: Loamy and sandy eolian deposits
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately rapid
Permeability below a depth of 40 inches: Moderately rapid or 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 2.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderately high

Properties and Qualities of the Princeton Soil

Parent material: Silt and fine sand eolian deposits
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate to rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Moderately high

UenA—Urban land-Fox complex, 0 to 2 percent slopes

Setting

Landform: Urban areas and stream terraces

Map Unit Composition

Urban land—50 percent
Fox and similar soils—39 percent
The well drained Ockley and similar soils, which are on summits—10 percent
The poorly drained Westland and similar soils, which are on toeslopes in long swales or wide depressions—1 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Fox—2s
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Fox Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid

Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Available water capacity: About 7.1 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

UenB—Urban land-Fox complex, 2 to 6 percent slopes

Setting

Landform: Urban areas and stream terraces

Map Unit Composition

Urban land—50 percent
Fox and similar soils—44 percent
The well drained Ockley and similar soils, which are on summits—5 percent
The poorly drained Westland and similar soils, which are on toeslopes in long swales or wide depressions—1 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Fox—2e
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Fox Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Available water capacity: About 7.1 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

UepC—Urban land-Fox-Casco complex, 6 to 12 percent slopes

Setting

Landform: Urban areas and stream terraces

Map Unit Composition

Urban land—50 percent
Fox and similar soils—28 percent
Casco and similar soils—19 percent
The well drained Ockley and similar soils, which are on summits—3 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Fox—4e; Casco—4e
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Fox Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification

Available water capacity: About 7.1 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Casco Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Somewhat excessively drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 10 to 20 inches to strongly contrasting textural stratification
Available water capacity: About 4.8 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Low
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

UfcB—Urban land-Cincinnati-Nabb complex, 2 to 12 percent slopes

Setting

Landform: Urban areas and Illinoian till plains

Map Unit Composition

Urban land—49 percent
Cincinnati and similar soils—16 percent
Nabb and similar soils—16 percent
Udorthents and similar disturbed soils, which are on summits—14 percent
The moderately well drained Blocher and similar soils, which are on backslopes and shoulders—3 percent
The well drained Bonnell, eroded, and similar soils, which are on backslopes—2 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Cincinnati—3e; Nabb—2e
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Cincinnati Soil

Parent material: Loess and the underlying paleosol in till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 20 to 36 inches to a fragipan
Available water capacity: About 7.1 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
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and high for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Nabb Soil

Parent material: Loess and the underlying paleosol in till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate

Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to a fragipan
Available water capacity: About 8.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

UfdA—Urban land-Cobbsfork-Avonburg complex, 0 to 2 percent slopes

Setting

Landform: Urban areas and Illinoian till plains

Map Unit Composition

Urban land—57 percent
Cobbsfork and similar soils—17 percent
Avonburg and similar soils—16 percent
Udorthents and similar disturbed soils, which are on summits—10 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Cobbsfork—3w; Avonburg—2w
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Cobbsfork Soil

Parent material: Loess and the underlying paleosol in till
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.6 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): At the surface (January, February, March)
Frequency of ponding: Frequent (December, January, February, March, April, May)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Avonburg Soil

Parent material: Loess and the underlying paleosol in till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 40 to 60 inches to a fragipan
Available water capacity: About 9.5 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
Perched seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and high for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

UfnA—Urban land-Crosby complex, 0 to 2 percent slopes

Setting

Landform: Urban areas and Wisconsin till plains

Map Unit Composition

Urban land—50 percent
Crosby and similar soils—45 percent
The moderately well drained Williamstown and similar soils, which are on backslopes and shoulders—3 percent
The poorly drained Cyclone and similar soils, which are on toeslopes in depressions or narrow to wide swales, or on broad ground moraines—2 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Crosby—2w
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Crosby Soil

Parent material: Thin loess over till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 20 to 40 inches to dense material
Available water capacity: About 6.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

UfoA—Urban land-Cyclone complex, 0 to 1 percent slopes

Setting

Landform: Urban areas and Wisconsin till plains

Map Unit Composition

Urban land—50 percent
Cyclone and similar soils—44 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—3 percent
The somewhat poorly drained Fincastle and similar soils, which are on footslopes—3 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Cyclone—2w
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Cyclone Soil

Parent material: Silty material or loess over till
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): At the surface (December, January, February)
Frequency of ponding: Frequent (December, January, February, March)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

UfxA—Urban land-Fincastle complex, 0 to 2 percent slopes

Setting

Landform: Urban areas and Wisconsin till plains

Map Unit Composition

Urban land—50 percent

Fincastle and similar soils—42 percent
The poorly drained Cyclone and similar soils, which are on toeslopes in depressions or narrow to wide swales, or on broad ground moraines—5 percent
The moderately well drained Williamstown and similar soils, which are on backslopes and shoulders—3 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Fincastle—2w
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Fincastle Soil

Parent material: Loess over till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

UfyB—Urban land-Fincastle-Russell complex, 2 to 6 percent slopes

Setting

Landform: Urban areas and Wisconsin till plains

Map Unit Composition

Urban land—50 percent
Fincastle and similar soils—25 percent
Russell and similar soils—25 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Fincastle—2w; Russell—2e
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Fincastle Soil

Parent material: Loess over till
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 10.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Russell Soil

Parent material: Loess over till
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 9.8 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

Perched seasonal high water table is highest (depth, months): 3.3 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

UhyA—Urban land-Martinsville, sandy substratum, complex, 0 to 2 percent slopes

Setting

Landform: Urban areas and stream terraces

Map Unit Composition

Urban land—50 percent
Martinsville, sandy substratum, and similar soils—48 percent
The somewhat poorly drained Whitaker and similar soils, which are on footslopes in old channels—2 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Martinsville—1
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Martinsville, Sandy Substratum, Soil

Parent material: Loamy outwash over sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate to very rapid
Depth to restrictive feature: 60 to 80 inches to strongly contrasting textural stratification
Available water capacity: About 11.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

UkbC—Urban land-Miami complex, 6 to 12 percent slopes

Setting

Landform: Urban areas and Wisconsin till plains

Map Unit Composition

Urban land—50 percent
Miami and similar soils—45 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—3 percent
The poorly drained Cyclone and similar soils, which are on toeslopes in depressions or swales, or on broad ground moraines—2 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Miami—3e
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Miami Soil

Parent material: Thin loess over till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to dense material
Available water capacity: About 6.2 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
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Very high
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

UkpA—Urban land-Ockley complex, 0 to 2 percent slopes

Setting

Landform: Urban areas and stream terraces

Map Unit Composition

Urban land—50 percent
Ockley and similar soils—35 percent
The well drained Fox and similar soils, which are on summits—10 percent
The somewhat poorly drained Sleeth and similar soils, which are on footslopes in long, old channels—5 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Ockley—1
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Ockley Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate to very rapid
Depth to restrictive feature: 40 to 72 inches to strongly contrasting textural stratification
Available water capacity: About 9.1 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

UkqA—Urban land-Nineveh complex, 0 to 2 percent slopes

Setting

Landform: Urban areas and stream terraces

Map Unit Composition

Urban land—50 percent
Nineveh and similar soils—47 percent
The somewhat poorly drained Sleeth and similar soils, which are on footslopes in long, old channels—3 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Nineveh—2s
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Nineveh Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 24 to 40 inches to strongly contrasting textural stratification
Available water capacity: About 7.1 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

Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

UkqB—Urban land-Nineveh complex, 2 to 6 percent slopes

Setting

Landform: Urban areas and stream terraces

Map Unit Composition

Urban land—50 percent
Nineveh and similar soils—47 percent
The somewhat poorly drained Sleeth and similar soils, which are on footslopes in long, old channels—3 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Nineveh—2e
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Nineveh Soil

Parent material: Loamy over gravelly sandy outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate to very rapid
Permeability below a depth of 40 inches: Very rapid
Depth to restrictive feature: 24 to 40 inches to strongly contrasting textural stratification
Available water capacity: About 7.1 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

UmqA—Urban land-Sleeth complex, 0 to 2 percent slopes

Setting

Landform: Urban areas and stream terraces

Map Unit Composition

Urban land—50 percent
Sleeth and similar soils—47 percent
The poorly drained Westland and similar soils, which are on toeslopes in long swales or wide depressions—3 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Sleeth—2w
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Sleeth, Drained, Soil

Parent material: Loamy gravelly outwash over sandy and gravelly outwash
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate to very rapid
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Available water capacity: About 9.3 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete

Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

UnnA—Urban land-Westland complex, 0 to 1 percent slopes

Setting

Landform: Urban areas and stream terraces

Map Unit Composition

Urban land—50 percent
Westland and similar soils—45 percent
The somewhat poorly drained Sleeth and similar soils, which are on footslopes in long, old channels—5 percent

Interpretive Groups

Land capability classification: Urban land—none assigned; Westland—2w
Prime farmland status: Not prime farmland

General Description of the Urban Land

Urban land consists of areas that are covered by paved or graveled roads, parking lots, walkways, residential and commercial buildings, and cemetery structures.

Properties and Qualities of the Westland Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate to very rapid
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): At the surface (December, January, February)
Frequency of ponding: Frequent (December, January, February, March)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Usl—Udorthents, rubbish

Setting

Landform: Sanitary landfills

Map Unit Composition

Udorthents, rubbish—100 percent

Interpretive Groups

Land capability classification: Udorthents, rubbish—none assigned
Prime farmland status: Not prime farmland

General Description

Generally, this map unit consists of areas of mixed loamy soil materials. These areas have been used to cover mixtures of household, business, and industrial rubbish that includes items such as glass and metals, and organic material such as paper and wood, plastics, synthetics, and other unwanted items (fig. 14).

W—Water

Map Unit Composition

Water—100 percent

General Description

This map unit consists of areas that are about 2 acres or larger in size that are covered with water to some extent for the entire year.

WaaAV—Wakeland silt loam, 0 to 2 percent slopes, frequently flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Wakeland and similar soils—83 percent
The poorly drained Birds and similar soils, which are in backswamps—10 percent
The moderately well drained Wilbur and similar soils—7 percent

Figure 14.—Sanitary landfill in an area of Udorthents, rubbish.

Interpretive Groups

Land capability classification: Wakeland—2w
Prime farmland status: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Wakeland Soil

Parent material: Coarse-silty alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Frequency of flooding: Frequent (January, February, March, April)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WaaAW—Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Wakeland and similar soils—82 percent
The poorly drained Birds and similar soils, which are in backswamps—10 percent
The moderately well drained Wilbur and similar soils—5 percent
The somewhat poorly drained Wakeland, frequently flooded, very brief duration, and similar soils—3 percent

Interpretive Groups

Land capability classification: Wakeland—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Wakeland Soil

Parent material: Coarse-silty alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible

Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WacAW—Wakeland-Birds silt loams, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains and backswamps

Map Unit Composition

Wakeland and similar soils—59 percent
Birds and similar soils—29 percent
The moderately well drained Wilbur and similar soils—10 percent
The somewhat poorly drained Wakeland, frequently flooded, very brief duration, and similar soils—2 percent

Interpretive Groups

Land capability classification: Wakeland—2w; Birds—3w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Wakeland Soil

Parent material: Coarse-silty alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Birds Soil

Parent material: Fine-silty alluvium
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderately slow or moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 13.1 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): At the surface (December, January, February, March, April)
Frequency of ponding: Frequent (December, January, February, March, April, May)
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WbiAW—Wilbur-Wakeland silt loams, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Wilbur and similar soils—54 percent
Wakeland and similar soils—30 percent
The poorly drained Birds and similar soils, which are in backswamps—4 percent
The well drained Beanblossom and similar soils—3 percent
The well drained Haymond and similar soils—3 percent
The somewhat poorly drained Wakeland, frequently flooded, very brief duration, and similar soils—3 percent
The moderately well drained Wilbur, frequently flooded, very brief duration, and similar soils—3 percent

Interpretive Groups

Land capability classification: Wilbur—2w; Wakeland—2w
Prime farmland status: Prime farmland

Properties and Qualities of the Wilbur Soil

Parent material: Coarse-silty alluvium

Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 1.5 feet (January, February, March)
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

Properties and Qualities of the Wakeland Soil

Parent material: Coarse-silty alluvium
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WdlC2—Wawaka loam, 6 to 12 percent slopes, eroded

Setting

Landform: Wisconsin till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Wawaka and similar soils—82 percent
The well drained Wawaka, severely eroded, and similar soils, which are on backslopes and shoulders—13 percent
The moderately well drained Miami and similar soils—5 percent

Interpretive Groups

Land capability classification: Wawaka—3e
Prime farmland status: Not prime farmland

Properties and Qualities of the Wawaka Soil

Parent material: Till over outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderately slow or moderate
Permeability below a depth of 40 inches: Moderately slow to moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 7.2 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
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

WdrB2—Wawaka silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Wisconsin till plains
Position on the landform: Summits and shoulders

Map Unit Composition

Wawaka and similar soils—80 percent
The moderately well drained Miami and similar soils, which are on summits and shoulders—10 percent
The well drained Wawaka, severely eroded, and similar soils, which are on summits and shoulders—10 percent

Interpretive Groups

Land capability classification: Wawaka—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Wawaka Soil

Parent material: Thin loess over till and the underlying outwash
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderately slow to moderately rapid
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: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

WokAW—Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Wilbur and similar soils—83 percent
The somewhat poorly drained Wakeland and similar soils—10 percent
The moderately well drained Wilbur, frequently flooded, very brief duration, and similar soils—5 percent
The well drained Haymond and similar soils—2 percent

Interpretive Groups

Land capability classification: Wilbur—2w
Prime farmland status: Prime farmland

Properties and Qualities of the Wilbur Soil

Parent material: Coarse-silty alluvium
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate
Depth to restrictive feature: More than 80 inches
Available water capacity: About 12.9 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 1.5 feet (January, February, March)
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WolAV—Wilhite silty clay, 0 to 1 percent slopes, frequently flooded, very brief duration

Setting

Landform: Backswamps and flood plains

Map Unit Composition

Wilhite and similar soils—96 percent
The very deep, poorly drained, moderately fine textured soil and similar soils—4 percent

Interpretive Groups

Land capability classification: Wilhite—4w
Prime farmland status: Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Wilhite Soil

Parent material: Fine textured alluvium
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Very slow or slow
Permeability below a depth of 40 inches: Very slow or slow
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: High
Apparent seasonal high water table is highest (depth, months): At the surface (December, January, February, March, April)

Frequency of ponding: Frequent (December, January, February, March, April, May)
Frequency of flooding: Frequent (January, February, March, April)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

WprAV—Wirt loam, 0 to 2 percent slopes, frequently flooded, very brief duration

Setting

Landform: Flood plains

Map Unit Composition

Wirt and similar soils—83 percent
The well drained Haymond and similar soils—10 percent
The well drained Wirt, occasionally flooded, and similar soils—5 percent
The moderately well drained Oldenburg and similar soils—2 percent

Interpretive Groups

Land capability classification: Wirt—2w
Prime farmland status: Prime farmland if protected from flooding or not frequently flooded during the growing season

Properties and Qualities of the Wirt Soil

Parent material: Coarse-loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Frequent (January, February, March, April, May)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WprAW—Wirt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration

Setting

Landform: Flood plains and flood-plain steps

Map Unit Composition

Wirt and similar soils—83 percent
The well drained Haymond and similar soils—10 percent
The well drained Wirt, frequently flooded, very brief duration, and similar soils—5 percent
The moderately well drained Oldenburg and similar soils—2 percent

Interpretive Groups

Land capability classification: Wirt—2w
Prime farmland status: Prime farmland

Properties and Qualities of the Wirt Soil

Parent material: Coarse-loamy alluvium
Drainage class: Well drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate or moderately rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.4 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Low
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Frequency of flooding: Occasional (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Low for steel and moderate for concrete
Surface runoff class: Very low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WqlA—Westland clay loam, 0 to 1 percent slopes

Setting

Landform: Depressions, stream terraces, and swales
Position on the landform: Toeslopes

Map Unit Composition

Westland and similar soils—95 percent
The somewhat poorly drained Sleeth and similar soils, which are on footslopes in long, old channels—5 percent

Interpretive Groups

Land capability classification: Westland—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Westland Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate to very rapid
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): At the surface (December, January, February)
Frequency of ponding: Frequent (December, January, February, March)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WqlAQ—Westland clay loam, 0 to 1 percent slopes, rarely flooded

Setting

Landform: Depressions, stream terraces, and swales
Position on the landform: Toeslopes

Map Unit Composition

Westland and similar soils—95 percent
The somewhat poorly drained Sleeth and similar soils, which are on footslopes in long, old channels—5 percent

Interpretive Groups

Land capability classification: Westland—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Westland Soil

Parent material: Loamy outwash over gravelly sandy outwash
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Moderate to very rapid
Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification
Available water capacity: About 9.7 inches to a depth of 60 inches
Content of organic matter in the surface layer: 3.0 to 6.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): At the surface (December, January, February, March, April, May)
Frequency of ponding: Frequent (December, January, February, March)
Frequency of flooding: Rare (January, February, March, April, May, June, July, November, December)
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WsuA—Whitaker loam, 0 to 2 percent slopes

Setting

Landform: Channels and stream terraces
Position on the landform: Footslopes

Map Unit Composition

Whitaker and similar soils—93 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—4 percent
The poorly drained Rensselaer and similar soils, which

are on toeslopes in depressions or narrow swales, or on interdunes—3 percent

Interpretive Groups

Land capability classification: Whitaker—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Whitaker Soil

Parent material: Loamy outwash
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 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: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Apparent seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Low

WsyAQ—Whitaker sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Landform: Stream terraces
Position on the landform: Footslopes

Map Unit Composition

Whitaker and similar soils—92 percent
The very deep, moderately well drained, loamy soil and similar soils, which are on slight rises—5 percent
The very deep, poorly drained, loamy soil and similar soils, which are in depressions—3 percent

Interpretive Groups

Land capability classification: Whitaker—2w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Whitaker Soil

Parent material: Loamy outwash
Drainage class: Somewhat poorly drained
Permeability to a depth of 40 inches: Moderate or moderately rapid
Permeability below a depth of 40 inches: Moderate to rapid
Depth to restrictive feature: More than 80 inches
Available water capacity: About 9.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 0.5 to 2.0 percent
Shrink-swell potential: Low
Apparent seasonal high water table is highest (depth, months): 0.5 foot (January, February, March)
Ponding: None
Fequency of flooding: Rare (January, February, March, April, May, June)
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Negligible
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderately high

WufB2—Williamstown silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Wisconsin till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Williamstown and similar soils—82 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—15 percent
The poorly drained Cyclone and similar soils, which are on toeslopes in depressions—3 percent

Interpretive Groups

Land capability classification: Williamstown—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Williamstown Soil

Parent material: Thin loess over till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 20 to 40 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: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 1.5 feet (January, February, March)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

XabB2—Xenia silt loam, 2 to 6 percent slopes, eroded

Setting

Landform: Wisconsin till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Xenia and similar soils—95 percent
The moderately well drained Xenia, severely eroded, and similar soils, which are on backslopes and shoulders—4 percent
The poorly drained Cyclone and similar soils, which are on toeslopes in depressions—1 percent

Interpretive Groups

Land capability classification: Xenia—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Xenia Soil

Parent material: Loess over till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 10.2 inches to a depth of 60 inches
Content of organic matter in the surface layer: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 1.5 feet (January, December)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: High
Hazard of corrosion: High for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

XfuB2—Miami-Rainsville silt loams, 2 to 6 percent slopes, eroded

Setting

Landform: Moraines and Wisconsin till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Miami and similar soils—60 percent
Rainsville and similar soils—30 percent
The somewhat poorly drained Crosby and similar soils, which are on footslopes—3 percent
The somewhat poorly drained Fincastle and similar soils, which are on footslopes—3 percent
The moderately well drained Miami, severely eroded, and similar soils, which are on backslopes and shoulders—3 percent
The poorly drained Treaty and similar soils, which are on toeslopes in depressions—1 percent

Interpretive Groups

Land capability classification: Miami—2e; Rainsville—2e
Prime farmland status: Prime farmland

Properties and Qualities of the Miami Soil

Parent material: Thin loess over till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to dense material
Available water capacity: About 6.2 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
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate

Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

Properties and Qualities of the Rainsville Soil

Parent material: Thin loess over glaciofluvial deposits over till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 45 to 60 inches to dense material
Available water capacity: About 9.1 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
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Low
Susceptibility to water erosion: Moderate
Susceptibility to wind erosion: Low

XrbC2—Miami-Rainsville loams, 6 to 12 percent slopes, eroded

Setting

Landform: Moraines and Wisconsin till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Miami and similar soils—55 percent
Rainsville and similar soils—40 percent
The poorly drained Treaty and similar soils, which are in depressions or swales—5 percent

Interpretive Groups

Land capability classification: Miami—3e; Rainsville—3e
Prime farmland status: Not prime farmland

Properties and Qualities of the Miami Soil

Parent material: Till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 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: 1.0 to 3.0 percent
Shrink-swell potential: Moderate
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Rainsville Soil

Parent material: Glaciofluvial deposits over till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Moderate
Permeability below a depth of 40 inches: Very slow to moderate
Depth to restrictive feature: 40 to 60 inches to dense material
Available water capacity: About 9.1 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
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: Medium
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

XrkD2—Miami-Kendallville loams, 12 to 18 percent slopes, eroded

Setting

Landform: Moraines and Wisconsin till plains
Position on the landform: Shoulders and backslopes

Map Unit Composition

Miami and similar soils—60 percent
Kendallville and similar soils—40 percent

Interpretive Groups

Land capability classification: Miami—4e; Kendallville—4e
Prime farmland status: Not prime farmland

Properties and Qualities of the Miami Soil

Parent material: Till
Drainage class: Moderately well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
Depth to restrictive feature: 24 to 40 inches to dense material
Available water capacity: About 5.9 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
Perched seasonal high water table is highest (depth, months): 2.0 feet (December, January, February, March, April)
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and low for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

Properties and Qualities of the Kendallville Soil

Parent material: Glaciofluvial deposits over till
Drainage class: Well drained
Permeability to a depth of 40 inches: Very slow to moderate
Permeability below a depth of 40 inches: Very slow or slow
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 3.0 percent
Shrink-swell potential: Moderate
Depth to seasonal high water table: More than 6.0 feet all year
Ponding: None
Flooding: None
Hydric soil status: Not hydric
Potential for frost action: Moderate
Hazard of corrosion: Moderate for steel and moderate for concrete
Surface runoff class: High
Susceptibility to water erosion: High
Susceptibility to wind erosion: Low

ZboA—Zipp silty clay loam, 0 to 1 percent slopes

Setting

Landform: Lake plains
Position on the landform: Flats and depressions

Map Unit Composition

Zipp and similar soils—80 percent
The poorly drained soil with a mollic epipedon and similar soils, which are in depressions on summits—20 percent

Interpretive Groups

Land capability classification: Zipp—3w
Prime farmland status: Prime farmland where drained

Properties and Qualities of the Zipp Soil

Parent material: Fine-textured lacustrine deposits
Drainage class: Poorly drained
Permeability to a depth of 40 inches: Slow or moderately slow
Permeability below a depth of 40 inches: Very slow or 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: 1.0 to 3.0 percent
Shrink-swell potential: High
Apparent seasonal high water table is highest (depth, months): At the surface (December, January, February, March, April)

Frequency of ponding: Frequent (December, January, February, March, April, May)
Flooding: None
Hydric soil status: Hydric
Potential for frost action: High
Hazard of corrosion: High for steel and low for concrete
Surface runoff class: Low
Susceptibility to water erosion: Low
Susceptibility to wind erosion: Moderate

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; for agricultural waste management; 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, poor*, and *very 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.

Agronomy

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified; the estimated yields of the main crops and hay and pasture plants are listed for each soil; the system of land capability classification used by the Natural Resources Conservation Service is explained; and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Detailed Soil Map Units.” Specific

information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

In 1997, about 146,039 acres in Bartholomew County, or about 56 percent of the total acreage, was used for grain crops, mainly corn, soybeans, and winter wheat. About 9,264 acres was used for hay and pasture. A total of 10,227 acres, or about 4 percent of the acreage in the county, was forested (Gann and Liles, 2000-2001).

The potential for increased production of food crops is good. Food production can be increased by extending the latest crop production technology to all the cropland in the county. This soil survey can facilitate the application of such technology.

Field crops suited to the soils and climate in the county include those that are currently grown and some that are not commonly grown. Corn, soybeans, and wheat are the principal cultivated crops. Other cultivated crops grown are oats and rye. Alfalfa, alsike clover, redtop, red clover, fescue, and orchardgrass are common crops grown for hay and pasture. A few specialty crops are grown in the county, mainly popcorn, tomatoes, sweet corn, seed corn, grapes, snap beans, Indiana melons, and pumpkins (fig. 15). A small acreage is used for tobacco. The latest information about growing cultivated crops, hay and pasture crops, and specialty crops can be obtained from local offices of the Cooperative Extension Service and the Natural Resources Conservation Service.

The paragraphs that follow describe the main management concerns affecting crops and pasture in the survey area. These concerns are the hazard of water erosion, wetness, tilth, and fertility.

Wetness is the major management concern for much of the cropland and pasture in the county. On most of the naturally wet, poorly drained, or very poorly drained Bellcreek, Birds, Bonnie, Cobbsfork, Cohoctah, Cyclone, Peoga, Piopolis, Rensselaer, Sloan, Westland, and Wilhite soils, production of the crops commonly grown in the county is generally not practical unless a drainage system is installed. In undrained areas of the somewhat poorly drained Avonburg, Ayrshire, Bartle, Holton, Lauer, McGary, Stendal, and Wakeland soils, wetness significantly damages crops in many years.

Various land use regulations of Federal, State, and local governments may impose special restrictions on the use of soils. An example is the protection of wetlands. Statements made in this section about wetness are intended to help the land user identify and reduce the effects of management concerns related to wetness. The landowner or user has the responsibility of identifying and complying with existing laws and regulations.

The design of both surface and subsurface drainage systems depends upon the kind of soil. A combination of surface and subsurface drains is needed on some soils that are intensively row cropped. Subsurface drains should be more closely spaced in slowly permeable or very slowly permeable soils than in more permeable soils. Filtering material is generally needed in subsurface drains in soils that have minimum grades and a high silt content. Examples are Bonnie, Piopolis, Stendal, and Wakeland soils. Finding adequate outlets for subsurface drainage systems is difficult in some areas of Bonnie, Piopolis, and Wilhite soils.

Additional information about the design of drainage systems 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.

On about 106,000 acres, or 40 percent of the county, water erosion is a major management concern affecting cropland and pasture. It is a hazard in areas where the slope is more than about 2 percent. Loss of the surface layer through erosion is damaging.

Productivity is reduced as fertilizer, pesticides, herbicides, and organic matter are removed from the surface layer. The natural tilth of some soils, such as Bonnell, Cincinnati, Miami, and Rarden soils, is reduced as part of the more clayey subsoil is incorporated into the surface layer. Seedbed preparation becomes more difficult, and seed germination is hindered. Loss of the surface layer is especially damaging to soils that are shallow or moderately deep to coarse textures, a fragipan, dense till material, paralithic material, or bedrock. The root zone in these soils consists mainly of the part of the profile above the limiting layer. As the surface layer is lost, the thickness of the root zone and the available water capacity are reduced. Fox and Nineveh soils are moderately deep to coarse textured material. Avonburg, Cincinnati, and Nabb soils have a fragipan. Crosby, Miami, and Williamstown soils have dense glacial till within a depth of 40 inches. Brownstown, Gilwood, Gnawbone, Milton, and Rarden soils have bedrock within a depth of 40 inches.

Erosion results in the sedimentation and pollution of ditches, lakes, and streams. Controlling erosion minimizes sedimentation and pollution and improves water quality for fish and wildlife, for municipal use, and for recreational use.

In previous years, some areas in the county were subject to water erosion to the extent that a network of deep U-shaped or V-shaped channels formed in the

Figure 15.—Grape vineyard in an area of Lauer silt loam, 0 to 2 percent slopes.

soils. In these channels, called gullies, the entire surface layer was lost and much of the subsoil was removed. Bonnell and Hickory soils in the BobE5 map unit are examples of soils that occur in these gullied areas.

Planting cover crops helps to control erosion on the more sloping soils. Cover crops are especially important after harvesting soybeans, corn for silage, and tobacco. Tillage methods that leave more than 50 percent of the surface covered with crop residue can protect most of the sloping soils from unacceptable levels of erosion during winter and early spring.

A conservation tillage system helps to hold soil losses to an acceptable level on most of the sloping soils. If row crops are grown year after year on sloping soils, soil losses generally are high unless a conservation tillage system is applied.

No-till and strip-till cropping systems are effective in minimizing soil loss on the sloping soils used for corn or soybeans. These conservation tillage systems can be adapted to many of the soils in the county that are susceptible to erosion. When no-till and strip-till are used in areas that have a thick vegetative cover or protective amounts of crop residue, soil moisture evaporates at a slower rate and the weed population is greatly reduced. Blocher, Cincinnati, Medora, Miami, Nabb, Pekin, Princeton, Rainsville, and Russell soils are examples of sloping soils that are suitable for no-till and strip-till cropping systems.

Contour farming can be used in several areas of the county. In areas where slopes are short and irregular, this practice is difficult to manage. Other types of conservation measures may be more suitable.

Riparian buffer strips are useful in limiting the amount of sediment and pollutants that enters streams (fig. 16).

Water and sediment-control basins are effective in reducing the rate of runoff in drainageways. They are most effective where subsurface tile can be installed as an outlet and on soils that have slopes of about 8 percent or less. Blocher, Cincinnati, Medora, Miami, Nabb, Russell, Williamstown, and Xenia soils are examples.

Grassed waterways are needed to protect the channels that drain a watershed. Subsurface drains are needed in areas where wetness or seepage is a problem in a waterway.

Grade-stabilization structures are needed in areas where a change in grade allows water to drop so quickly that erosion occurs. These structures are commonly needed where a grassed waterway enters an open ditch (fig. 17).

Information about the type and design of erosion-control practices that are best suited to each kind of soil is available at the local office of the Natural Resources Conservation Service.

Soil tilth is an important factor affecting the preparation of a seedbed, the germination of seeds, and the infiltration of water into the soil. Soils that have good tilth are granular and porous.

Many of the soils used for row crops in Bartholomew County have a surface layer of silt loam that has a moderate to low content of organic matter. Where little or no crop residue is present, a hard surface crust forms after periods of intensive rainfall. The hard crust reduces the infiltration rate, increases the runoff rate, and inhibits plant emergence. Regular additions of crop residue, cover crops, manure, and other organic material improve soil structure and help to minimize crusting. Such soils as Bellcreek, Cyclone, Piopolis, Sloan, Treaty, Westland, Wilhite, and Zipp soils and the severely eroded Miami soils have a moderately fine textured surface layer. Tilth is a problem in areas of all of these soils. If the soils are tilled when too wet, the surface layer becomes very cloddy when it dries and cannot be easily worked. As a result, preparing a good seedbed is very difficult. Fall tillage of these soils generally results in better tilth in the spring.

Many of the soils in the survey area have a silty or loamy surface layer that is easily compacted. Tilling or grazing when the soil is wet causes surface compaction, which restricts penetration by tillage equipment and plant roots and limits plant growth.

Soil fertility is mainly affected by reaction, by the content of plant nutrients, and by the content of organic matter.

On soils that have a pH level below about 6.4, applications of ground limestone are needed to raise

Figure 16.—Warm season grasses in an area of Genesee loam, 0 to 2 percent slopes, occasionally flooded, very brief duration.

Figure 17.—Waterway and rock chute for erosion control in an area of Cincinnati-Blocher silt loams, 2 to 6 percent slopes, eroded.

the pH level sufficiently for the best utilization of plant nutrients by cultivated crops, such as corn and soybeans. On soils that have a pH level below about 6.4, ground limestone is needed for hay and pasture plants, such as alfalfa and red clover. The supply of available phosphorus and potassium is generally below the level needed for good plant growth in most of the soils in the county that have never had applications of fertilizer. On all soils, additions of lime and fertilizer should be based on the results of soil tests, the needs of the crop, and the desired level of yields. The Cooperative Extension Service can help in determining the kind and amount of fertilizer and/or lime to be applied (Adams, 1984; Khasawneh and others, 1980; Munson, 1985; Stevenson, 1982; Walsh and Beaton, 1973).

Pasture plants commonly grown in the county are mixtures of tall fescue, orchardgrass, bromegrass, timothy, alfalfa, and red clover. Other pasture plants are bluegrass, ladino clover, redtop, alsike clover, lespedeza, and sweetclover. Most of the soils in the county are well suited to grasses, such as tall fescue, timothy, and orchardgrass, and to legumes, such as red clover, ladino clover, alfalfa, and lespedeza. Legumes grow poorly in areas of poorly drained or very poorly drained soils, such as Bellcreek, Bonnie, Cobbsfork, Cyclone, Peoga, Piopolis, and Zipp soils.

The growth of most deep-rooted legumes, such as alfalfa and sweetclover, is significantly restricted in soils that have a fragipan or have layers with fragic soil properties, such as Avonburg, Cincinnati, and Nabb soils. Poorly drained and very poorly drained soils, such as Bonnie, Cobbsfork, Peoga, Piopolis, and Wilhite soils, are well suited to water-tolerant grasses. Well drained soils, such as Bonnell and Elkinsville soils, are well suited to deep-rooted legumes.

The latest information on recommended grasses and legumes for each soil type can be obtained from local offices of the Cooperative Extension Service and the Natural Resources Conservation Service.

Cropland Limitations and Hazards

The cropland management concerns affecting the use of the soils in the survey area are shown in table 5. The main concerns in managing cropland are controlling water erosion, soil wetness, and ponding; minimizing surface crusting; minimizing clodding; operating equipment safely on steep slopes; and

limiting the effects of restricted permeability and low available water capacity.

Some of the limitations and hazards shown in the table cannot be easily overcome. These include *flooding, limited rooting depth, restricted permeability,* and *low available water capacity*.

Generally, a combination of conservation practices is needed to control both *water erosion and wind erosion*. Conservation tillage, stripcropping, contour farming, conservation cropping systems, crop residue management, diversions, grassed waterways, a crop rotation that includes grasses and legumes, and field windbreaks help to minimize excessive soil loss. Soils that have deep or wide gullies are generally not suitable for use as cropland.

Wetness is a limitation in some cropland areas, and *ponding* is a hazard. Drainage systems consist of subsurface tile drains, surface inlet tile, open drainage ditches, surface drains, or a combination of these. Measures that maintain the drainage system are needed. Generally, soils that are ponded for long or very long periods during the growing season are not suitable for use as cropland.

Practices that reduce *surface crusting* and minimize *clodding* include incorporating green manure crops, manure, or crop residue into the soil and using a system of conservation tillage. Surface cloddiness can be minimized by avoiding tillage during periods when the soils are too wet.

Measures that conserve moisture are needed in areas where the soils have a *low* or *moderate available water capacity*. These measures primarily involve 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.

Both a *low pH* and a *high pH* (soil reaction) inhibit the uptake of certain nutrients by the plants or accelerate the absorption of certain other elements to the level of toxic concentrations. Either of these conditions affects the health and vigor of plants. For a low pH, 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 crop. Generally, the natural reaction in the surface layer of most of the soils in the area is a low pH, except for some soils on flood plains. For most soils in the area, the pH should be raised to an optimal level for the crop being grown. In contrast, soils with a high pH may need treatment to lower the pH so that certain elements are adequately available for specific crop use.

Some soils have an *equipment limitation* because of the slope. In areas where slopes are 15 percent or more, the operation of farm equipment may be restricted and could become hazardous. Generally, soils with an average slope of 18 percent or more are not suitable for use as cropland.

Areas in which 3 percent or more of the surface is covered with stones or boulders have an *equipment limitation*. Large rock fragments on the surface can limit the type of equipment that can be used or can damage equipment during planting operations. Soils that have a gravelly or cobbly surface layer also have an *equipment limitation*.

Limited rooting depth and the available moisture for plant growth are affected by root-restricting layers, such as bedrock, a fragipan, dense till, or stratified sand and gravel, within a depth of 40 inches.

Crops can be damaged if the soil is subject to occasional or frequent periods of *flooding* during the growing season. Small grain crops grown in the winter are especially susceptible to damage. Water-tolerant species should be used in areas subject to flooding during the growing season.

The following is an explanation of the criteria used to determine the limitations or hazards.

Clodding—The soil has 35 percent or more clay in the surface layer.

Crusting—The content of organic matter in the surface layer is less than or equal to 2 percent, the percent passing the number 200 sieve is greater than 50 percent, and the clay content is less than or equal to 32 percent.

Equipment limitation—The soil has an average slope of 15 percent or more; or the soil has stones or boulders that cover 3 percent or more of the surface; or the surface layer contains 15 percent or more rock fragments.

Flooding—The soil is subject to occasional or frequent periods of flooding during the growing season (fig. 18).

High pH—Soils that naturally have high pH or high reaction, typically a pH value equal to or more than 7.4 in the surface layer.

Limited rooting depth—Root-restricting layers, such as bedrock, a fragipan, dense till, and stratified sand and gravel, are within a depth of 40 inches.

Low available water capacity—The weighted average of the available water capacity is equal to or more than 0.05 inch but less than 0.10 inch of water per inch of soil within a depth of 60 inches.

Low pH—Soils that naturally have low pH or low reaction, typically a pH value equal to or less than 6.0 in the surface layer.

Figure 18.—Flooding in an area of Genesee loam, 0 to 2 percent slopes, frequently flooded, brief duration.

Moderate available water capacity—The weighted average of the available water capacity is equal to or more than 0.10 inch but less than 0.15 inch of water per inch of soil within a depth of 60 inches.

Ponding—The soil is subject to occasional or frequent periods of ponding during the growing season.

Restricted permeability—Permeability of the soil is less than 0.2 inch per hour in one or more layers within a depth of 40 inches.

Water erosion—The erodibility factor of the surface layer (Kf or Kw) multiplied by the slope is greater than 0.8, and the average slope is 3 percent or more.

Wetness—The soil has a water table within a depth of 1.5 feet during the growing season.

Wind erosion—The soil is in wind erodibility group 1 or 2 (or in group 3 if the soil is not on a flood plain).

Erodibility factors (e.g., Kf or Kw) and wind erodibility groups are described under the heading "Physical Properties."

Pasture Limitations and Hazards

Growing legumes, cool-season grasses, and warm-season grasses that are suited to the soils and the climate of the area helps to maintain a productive stand of pasture (fig. 19).

The management concerns affecting the use of the soils in the survey area for pasture are shown in table 5. The main management concerns affecting pasture are erosion hazard, equipment limitation, wetness and ponding, trafficability, and low available water capacity.

Some of the limitations and hazards shown in the table cannot be easily overcome. These are *limited rooting depth (bedrock)*, *low available water capacity*, and *flooding*.

Also, the majority of the soils suitable for growing legumes have a high potential for frost action. The local office of the Natural Resources Conservation Service or the Cooperative Extension Service can provide information about legumes subject to damage from frost heave. This hazard is not listed in table 5 because it applies to the majority of the soils.

Both *water erosion* and *wind erosion* reduce the productivity of pastureland. 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, planting field windbreaks, 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. Soils that have deep or wide gullies are generally not suitable for use as pasture.

Wetness is a limitation in some pastured areas, and *ponding* is a hazard. Drainage systems consist of subsurface tile drains, surface inlet tiles, open drainage ditches, surface drains, or a combination of these. Measures that maintain the drainage system are needed. Generally, soils that are ponded for long or very long periods during the growing season are not suitable for pasture. Overgrazing or grazing when the soil is wet reduces the extent of plant cover and results in surface compaction, and thus it increases the susceptibility to erosion. Proper stocking rates, rotation grazing, and timely deferment of grazing, especially during wet periods, help to keep the pasture in good condition.

Trafficability of both livestock and machinery across the soil is a limitation for soils that have a *wetness* limitation along with a loamy, clayey, or organic surface layer. The proper location of livestock facilities (watering, feeding, and shelter) helps to minimize surface compaction or the formation of ruts and thus helps to prevent damage to the pasture crops.

Some soils have an *equipment limitation* because of the slope. In areas where slopes are 15 percent or more, the operation of farm equipment may be restricted and could become hazardous. Generally, soils with an average slope of 25 percent or more are not suitable for use as pasture.

Areas in which 3 percent or more of the surface is covered with stones or boulders have an *equipment limitation*. Large rock fragments on the surface can limit the type of equipment that can be used or can damage equipment during reseeding and planting operations. Soils that have a gravelly or cobbly surface layer also have an *equipment limitation*.

Soils that have root-restricting layers, such as bedrock, a fragipan, dense till, and stratified sand and gravel, within a depth of 40 inches have *limited rooting depth* and limited available water for plant growth.

Figure 19.—Hay field in an area of Miami silt loam, 2 to 6 percent slopes, eroded.

Available water capacity refers to the capacity of soils to hold water available for use by most plants. The quality and quantity of the pasture may be reduced for soils that have *low available water capacity*. The soil moisture may be inadequate for the maintenance of a healthy community of desired pasture species and, thus, the desired number of livestock. A poor quality pasture may increase the hazard of erosion and increase the runoff of pollutants. Planting drought-resistant species of grasses and legumes helps to establish a cover of vegetation. Irrigation may be needed.

Both a *low pH* and a *high pH* (soil reaction) inhibit the uptake of certain nutrients by the plants or accelerate the absorption of certain other elements to the level of toxic concentrations. Either of these conditions affects the health and vigor of plants. For a low pH, 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.

The following is an explanation of the criteria used to determine the limitations or hazards.

Equipment limitation—The soil has an average slope of 15 percent or more; or the soil has stones or boulders that cover 3 percent or more of the surface; or the surface layer contains 15 percent or more rock fragments.

Flooding—The soil is subject to occasional or frequent periods of flooding during the growing season.

High pH—Soils that naturally have high pH or high reaction, typically a pH value equal to or more than 7.4 in the surface layer.

Limited rooting depth—Root-restricting layers, such as bedrock, a fragipan, dense till, and stratified sand and gravel, are within a depth of 40 inches.

Low available water capacity—The weighted average of the available water capacity is less than 0.10 inch of water per inch of soil within a depth of 60 inches.

Low pH—Soils that naturally have low pH or low reaction, typically a pH value equal to or less than 6.0 in the surface layer.

Ponding—The soil is subject to occasional or frequent periods of ponding during the growing season.

Trafficability limitation—The soil is somewhat poorly drained, poorly drained, or very poorly drained, and the surface layer is loamy, clayey, or organic soil material.

Water erosion—The erodibility factor of the surface layer (Kf or Kw) multiplied by the slope is greater than 0.8, and the average slope is 3 percent or more.

Wetness—The soil is poorly drained or very poorly drained.

Wind erosion—The soil is in wind erodibility group 1 or 2 (or group 3 if the soil is not on a flood plain).

Erodibility factors (e.g., Kf or Kw) and wind erodibility groups are described under the heading "Physical Properties."

Yields per Acre

The average yields per acre that can be expected for the principal crops under a high level of management are shown in table 6. The principal crops are corn, soybeans, winter wheat, grass-legume hay, and pasture. In any given year, yields may be higher or lower than those indicated in the table. These differences are the result of variations in rainfall and other climatic factors; varieties grown; environmental factors, such as plant diseases and insect infestations; and type of fertility program. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

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 and implemented. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide additional information about the management and productivity of the soils for those crops.

The estimated yields in table 6 were calculated based on a specific value for corn yields, and the yields for the other crops listed are calculated as a percentage relative to the corn yield.

Pasture and Hayland Interpretations

Under good management, proper grazing is essential for the production of high quality forage, stand survival, and erosion control (fig. 20). Proper grazing helps plants to maintain sufficient and generally vigorous 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 required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated grass-legume hay and pasture yields in table 6 were calculated based on a specific value for corn yields and are calculated as a percentage relative to the corn yield.

Yields for hay and pasture crops vary widely based on the type and combination of grass and legume crops grown.

The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about forage yields other than those shown in table 6.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to

Figure 20—Buffalo grazing in an area of Genesee loam, 0 to 2 percent slopes, occasionally flooded, very brief duration.

show suitability and limitations of groups of soils for forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961). 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. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class 5 soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation.

Class 7 soils have very severe limitations that make them unsuitable for cultivation.

Class 8 soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

The capability classification of map units in this survey area is given in table 6.

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.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 7. 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 (fig. 21). Onsite evaluation is needed to determine whether or not the hazard or limitation

Figure 21.—Soybeans in an area of Peoga silt loam, 0 to 1 percent slopes. These soils are prime farmland in areas where they are drained.

has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

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 8 shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in the table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery.

Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland

hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999) and “Keys to Soil Taxonomy” (Soil Survey Staff, 1998) and in the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in “Field Indicators of Hydric Soils in the United States” (Hurt and others, 2003).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

The following map units meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2003).

BdhAH—Bellcreek silty clay loam, 0 to 1 percent slopes, frequently flooded, brief duration
BfbAH—Bellcreek silt loam, 0 to 1 percent slopes, frequently flooded, brief duration
BgeAW—Birds silt loam, 0 to 1 percent slopes, occasionally flooded, very brief duration
BodAV—Bonnie silt loam, 0 to 1 percent slopes, frequently flooded, very brief duration
ClfA—Cobbsfork silt loam, 0 to 1 percent slopes
CmbAW—Cohoctah loam, 0 to 1 percent slopes, occasionally flooded, very brief duration
CxdA—Cyclone silty clay loam, 0 to 1 percent slopes
PhaA—Peoga silt loam, 0 to 1 percent slopes
PlpAV—Piopolis silty clay loam, 0 to 1 percent slopes, frequently flooded, very brief duration
RehA—Rensselaer-Treaty silt loams, 0 to 1 percent slopes
ReyA—Rensselaer loam, 0 to 1 percent slopes
ReyAQ—Rensselaer loam, 0 to 1 percent slopes, rarely flooded
SocAH—Sloan silty clay loam, 0 to 1 percent slopes, frequently flooded, brief duration
SocAW—Sloan silty clay loam, 0 to 1 percent slopes, occasionally flooded, very brief duration
UfoA—Urban land-Cyclone complex, 0 to 1 percent slopes
UnnA—Urban land-Westland complex, 0 to 1 percent slopes
WolAV—Wilhite silty clay, 0 to 1 percent slopes, frequently flooded, very brief duration
WqlA—Westland clay loam, 0 to 1 percent slopes
WqlAQ—Westland clay loam, 0 to 1 percent slopes, rarely flooded
ZboA—Zipp silty clay loam, 0 to 1 percent slopes

Map units that are made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The following map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators, but they do have some areas that are hydric. The list names the component or components that have hydric characteristics and gives the average extent within the map unit. Onsite investigation is recommended to determine whether

hydric soils occur and the location of the included hydric soils.

AddA—Avonburg silt loam, 0 to 2 percent slopes: Cobbsfork and similar soils—10 percent of the unit

AddB2—Avonburg silt loam, 2 to 4 percent slopes, eroded: Cobbsfork and similar soils—10 percent of the unit

AmkA—Ayrshire fine sandy loam, 0 to 2 percent slopes: Rensselaer and similar soils—5 percent of the unit

BbhA—Bartle silt loam, 0 to 2 percent slopes: Peoga and similar soils—10 percent of the unit

BbiB—Bartle-Pekin silt loams, 2 to 6 percent slopes: Peoga and similar soils—5 percent of the unit

CudA—Crosby silt loam, 0 to 2 percent slopes: Treaty and similar soils—2 percent of the unit

CulB—Crosby-Williamstown silt loams, 2 to 4 percent slopes: Cyclone and similar soils—5 percent of the unit

FdbA—Fincastle silt loam, 0 to 2 percent slopes: Cyclone and similar soils—10 percent of the unit

FdqB—Fincastle-Xenia silt loams, 2 to 4 percent slopes: Cyclone and similar soils—10 percent of the unit

FexA—Fox loam, 0 to 2 percent slopes: Westland and similar soils—2 percent of the unit

FexAQ—Fox loam, 0 to 2 percent slopes, rarely flooded: Westland and similar soils—2 percent of the unit

FexB2—Fox loam, 2 to 6 percent slopes, eroded: Westland and similar soils—2 percent of the unit

HleAW—Holton silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration: very deep, poorly drained soils—5 percent of the unit

LeaA—Lauer silt loam, 0 to 2 percent slopes: Zipp and similar soils—10 percent of the unit

MjjAH—Medway silty clay loam, 0 to 2 percent slopes, frequently flooded, brief duration: Sloan and similar soils—5 percent of the unit

MnpB2—Miami silt loam, 2 to 6 percent slopes, eroded: Cyclone and similar soils—2 percent of the unit

MnpC2—Miami silt loam, 6 to 12 percent slopes, eroded: Cyclone and similar soils—3 percent of the unit

NpcA—Nineveh gravelly sandy loam, 0 to 2 percent slopes: Rensselaer and similar soils—3 percent of the unit

RtxAH—Rossburg silt loam, 0 to 2 percent slopes, frequently flooded, brief duration: Sloan and similar soils—5 percent of the unit

RtxAK—Rossburg silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration: Sloan and similar soils—5 percent of the unit

RywB2—Russell silt loam, 2 to 6 percent slopes, eroded: poorly drained soil and similar soils—1 percent of the unit

SldAH—Shoals silt loam, 0 to 2 percent slopes, frequently flooded, brief duration: Sloan and similar soils—10 percent of the unit

SldAW—Shoals silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration: Sloan and similar soils—10 percent of the unit

SnfA—Sleeth loam, 0 to 2 percent slopes: Westland and similar soils—3 percent of the unit

StdAQ—Stendal silt loam, 0 to 2 percent slopes, rarely flooded: Bonnie and similar soils—5 percent of the unit

StdAV—Stendal silt loam, 0 to 2 percent slopes, frequently flooded, very brief duration: Bonnie and similar soils—5 percent of the unit and Piopolis and similar soils—2 percent of the unit

UenA—Urban land-Fox complex, 0 to 2 percent slopes: Westland and similar soils—1 percent of the unit

UenB—Urban land-Fox complex, 2 to 6 percent slopes: Westland and similar soils—1 percent of the unit

UfdA—Urban land-Cobbsfork-Avonburg complex, 0 to 2 percent slopes: Cobbsfork and similar soils—17 percent of the unit

UfnA—Urban land-Crosby complex, 0 to 2 percent slopes: Cyclone and similar soils—2 percent of the unit

UfxA—Urban land-Fincastle complex, 0 to 2 percent slopes: Cyclone and similar soils—5 percent of the unit

UkbC—Urban land-Miami complex, 6 to 12 percent slopes: Cyclone and similar soils—2 percent of the unit

UmqA—Urban land-Sleeth complex, 0 to 2 percent slopes: Westland and similar soils—3 percent of the unit

WaaAV—Wakeland silt loam, 0 to 2 percent slopes, frequently flooded, very brief duration: Birds and similar soils—10 percent of the unit

WaaAW—Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration: Birds and similar soils—10 percent of the unit

WacAW—Wakeland-Birds silt loams, 0 to 2 percent slopes, occasionally flooded, very brief duration: Birds and similar soils—29 percent of the unit

WbiAW—Wilbur-Wakeland silt loams, 0 to 2 percent slopes, occasionally flooded, very brief duration: Birds and similar soils—4 percent of the unit

WsuA—Whitaker loam, 0 to 2 percent slopes: Rensselaer and similar soils—3 percent of the unit
WsyAQ—Whitaker sandy loam, 0 to 2 percent slopes, rarely flooded: poorly drained soil and similar soils—3 percent of the unit
WufB2—Williamstown silt loam, 2 to 6 percent slopes, eroded: Cyclone and similar soils—3 percent of the unit
XabB2—Xenia silt loam, 2 to 6 percent slopes, eroded: Cyclone and similar soils—1 percent of the unit
XfuB2—Miami-Rainsville complex, 2 to 6 percent slopes, eroded: Treaty and similar soils—1 percent of the unit
XrbC2—Miami-Rainsville loams, 6 to 12 percent slopes, eroded: Treaty and similar soils—5 percent of the unit

Forestland

Hardwood forest once covered most of the land in Bartholomew County, but many of the trees have been removed from land suitable for cultivation. In 1997 about 10,227 acres, or nearly 4 percent of the total land acreage of the county, remained in forestland (Gann and Liles, 2000-2001). Much of the remaining forest cover is on steep and very steep slopes on uplands. Many small tracts are on level, poorly drained and very poorly drained soils. The soils vary widely in their suitability for trees. Under proper management, the soils in these areas produce trees of high quality.

Upland oaks are dominant on the well drained sites. Cincinnati soils, for example, are well suited to upland oaks and associated species (fig. 22). White oak, red oak, black oak, chinquapin oak, hickory, white ash, sugar maple, and tulip poplar are the dominant species. Tulip poplar generally grows on the lower parts of steep slopes, on cool aspects (north and northeast slopes), and in coves. Alvin and Princeton soils, for example, are well suited to tulip poplar and associated species. Associated species include white ash, red oak, basswood, white oak, hickory, beech, black walnut, and sugar maple. Tulip poplar is the preferred species for planting.

Pin oak grows on poorly drained soils on uplands, terraces, and bottom lands. Cobbsfork soils, for example, are well suited to pin oak and associated species. Associated species include soft maple, sweetgum, swamp white oak, elm, and ash.

Sweetgum is a major forest type on poorly drained upland and terrace soils and on poorly drained and somewhat poorly drained soils on bottom land. Stendal soils, for example, are well suited to sweetgum and associated species. Associated species include soft maple, red river birch, hickory, ash, and sycamore.

Site characteristics that affect tree growth include aspect, or the direction the slope is facing, and position on the slope. These site characteristics influence the amount of available sunlight, air drainage, soil temperature, soil moisture, and relative humidity. North- and east-facing slopes and low positions on the slope are generally the best upland sites for tree growth because they are cooler and have better moisture conditions than south- and west-facing slopes.

Soil properties are fundamentally important for woodland production. Twenty-five percent or more of the mass of a tree is in the soil, which serves as a reservoir for moisture, provides an anchor for roots, and supplies essential plant nutrients. Soil properties that affect the growth of trees include reaction, fertility, wetness, texture, structure, slope, and depth. Trees grow best on soils that have properties not in the extreme range and that have an effective rooting depth of more than 40 inches.

Soil wetness is the result of a high water table, flooding, or ponding. Wetness causes seedling mortality, limits the use of equipment, and increases the windthrow hazard by restricting the rooting depth of some trees. Ruts form easily if wheeled skidders are used when the soils are wet. Deep ruts restrict lateral drainage, damage tree roots, and alter soil structure. Flooding is a hazard on some soils. On soils that are subject to flooding or ponding, equipment should be used only during dry periods or when the ground is frozen.

The slope can limit the use of forestry equipment. A slope of 15 percent or more limits the use of equipment in logging and yarding areas and on skid trails and unsurfaced logging roads. Erosion is a hazard in these disturbed areas. Special erosion-control measures, such as water bars or dips, and logging roads and skid trails that are designed to minimize the steepness and length of slopes and to prevent the concentration of water help to control erosion. Steep slopes are a safety hazard and limit the use of equipment. Equipment should be operated on the contour where possible for erosion control, but the slope may present a safety issue. On steeper slopes, logs should be moved uphill to skid trails and yarding areas.

Forestland productivity can be influenced by management activities. These practices include thinning young stands, harvesting mature trees, preventing fire, and eliminating the use of woodland for grazing. Forest fires are no longer a major problem in

Figure 22.—Mixed hardwood forest in an area of Blocher and Cincinnati soils.

the county, but some of the forestland is used for grazing. Grazing destroys the leaf layer, compacts the soil, and destroys or damages seedlings. Forestland sites that are not used for grazing and that are protected from fire have the highest potential for production.

Much of the existing commercial forestland in Bartholomew County could be improved by thinning out mature trees and undesirable species. Protection from grazing and fire and control of disease and insects would also improve the stands. The Natural Resources Conservation Service, the State Division of Forestry, consulting foresters, or the Cooperative Extension Service can help to determine specific woodland management needs. Assistance in establishing, improving, or managing forestland is available from foresters or natural resources specialists.

The tables in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forest management.

Forestland Productivity

In table 9, the *potential productivity* of *trees to plant* 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. More detailed information regarding site index is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber,* a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Forestland Management

In tables 10a, 10b, 10c, and 10d, interpretive ratings are given for various aspects of forestland management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified forestland management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified forest management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for seedling mortality are expressed as *low, moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management practices. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service.

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance; and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding,

and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Recreation

The soils of the survey area are rated in tables 11a and 11b 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 specific 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.

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 of this column. 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.

The information in tables 11a and 11b can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, and sanitary facilities.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water (fig. 23). Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 12, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

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

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

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

Figure 23.—Butterfly habitat in an area of Cyclone silty clay loam, 0 to 1 percent slopes.

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 plants or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, and deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to waste management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, and construction materials. 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 13a and 13b 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 (fig. 24 and fig. 25). 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 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, and 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 a 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 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; and the content of salts, sodium, calcium carbonate, and sulfidic materials. Flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Figure 24.—New home construction in an area of Crosby silt loam, 0 to 2 percent slopes.

Sanitary Facilities

Tables 14a and 14b 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 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.

Figure 25.—Cutbanks cave in a basement excavation in Wisconsin till materials.

Individuals need to contact the local health department for procedures and local septic codes to determine site feasibility for septic tank absorption fields.

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 effluent can result in the contamination of 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 soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet

are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for the landfill. They are based on 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, or 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.

Waste Management

Soil properties are important when organic waste is applied as fertilizer and waste-water is applied in irrigated areas. They also are important when the soil is used as a medium for the treatment and disposal of the organic waste and waste-water. Unfavorable soil properties can result in environmental damage.

The use of organic waste and waste-water as production resources results in the conservation of energy and resources and minimizes the problems associated with waste disposal. If disposal is the goal, applying a maximum amount of the organic waste or the waste-water to a minimal area holds costs to a minimum and environmental damage is the main hazard. If reuse is the goal, a minimum amount should be applied to a maximum area and environmental damage is unlikely.

Interpretations developed for waste management may include ratings for manure- and food-processing waste, municipal sewage sludge, use of waste-water for irrigation, and treatment of waste-water by slow rate, overland flow, and rapid infiltration processes. Specific information regarding waste management is available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Construction Materials

Tables 15a and 15b 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.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 15a, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of gravel or sand 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 lowest layer of the soil contains gravel or sand, the soil is rated as a probable source regardless of thickness. The assumption is that the gravel or sand layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of gravel and sand. 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.

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 tables. 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.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

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

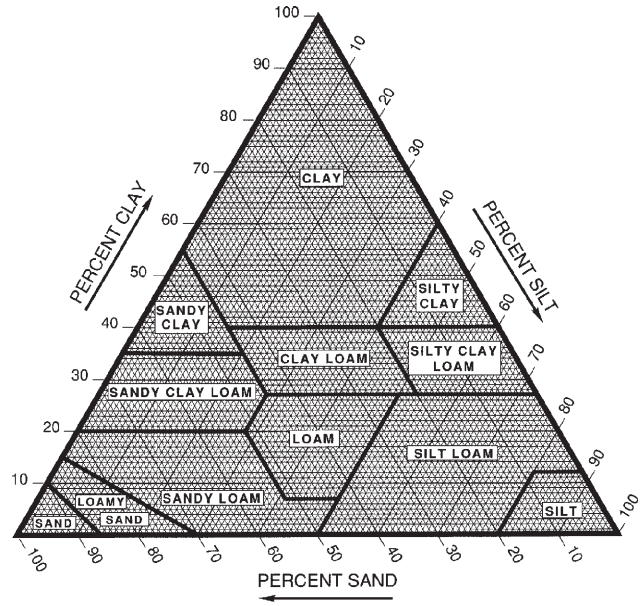

Figure 26.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

Engineering Index Properties

Table 16 gives the engineering classifications and the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter (fig. 26). “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.” Representative values for texture are indicated with an asterisk. These representative values are indicative of textures that occur most commonly. Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000). Representative values for Unified and AASHTO are indicated with an asterisk.

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.

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

Tables 17a and 17b show estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In table 17a, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In table 17a, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 17a, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (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 table 17a, 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 table 17a 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 table 17a 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 17a, 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 17b, 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 as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion because of rock fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Slope length is the horizontal distance from the origin of overland flow to the point where either the slope gradient decreases enough that deposition begins or runoff becomes concentrated in a defined channel (USDA, 1997). The slope length is given as a

representative value (rv). Representative values are indicative of conditions that occur most commonly.

Slope gradient is the difference in elevation between two points and is expressed as a percentage of the distance between those points. For example, a difference in elevation of 1 meter over a horizontal distance of 100 meters is a slope of 1 percent. The slope gradient is given as a representative value (rv). Representative values are indicative of conditions that occur most commonly.

Chemical Properties

Table 18 shows estimates of *cation-exchange capacity*, *effective cation-exchange capacity*, *soil reaction*, and *calcium carbonate equivalent*.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

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

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Water Features

Table 19 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.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 19 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 19 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year);

and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

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

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

Soil Features

Table 20 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, fragipan, dense material, and strongly contrasting textural stratification. The table indicates the hardness of the restrictive layer, which significantly affects the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures (fig. 27).

Soil slippage potential is the susceptibility of a soil mass to movement downslope when loaded, excavated, or wet. Soil slippage is caused by several natural factors, and the potential is greatly increased by human activity. Type of bedrock and depth to bedrock, slope gradient, landform position, clay mineralogy, and the shrink-swell potential are the most important natural factors. Shallow soils that formed in shale, have expansive clay mineralogy, have a high shrink-swell potential, are on steep slopes, and are on footslopes or backslopes are the most susceptible to soil slippage. (National Academy of Science, 1978)

Soils that have a medium or high slippage potential are even more susceptible to slippage where certain types of human activity take place. Factors that increase potential for soil slippage include making cuts in hillsides during construction of roadbeds and houses; concentrating water by changing surface water runoff patterns, allowing water to concentrate from leaking water and sewer lines; increasing weight on slopes by building structures or placing fill for building sites; changing the course of streams, increasing stream flow, or removing rock from the stream bed, causing the base of slopes to be undercut; and removing vegetation.

Soil slippage causes damage to roads and structures and can endanger human life. Areas that have slipped are susceptible to additional slippage and are generally too unstable for most construction uses.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of

Figure 27.—Frost heave damage to a roadbed.

corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1998; Soil Survey Staff, 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 21 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 Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols that has a udic moisture regime).

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

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size 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, active, mesic Typic Hapludalfs.

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

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Field Book for Describing and Sampling Soils” (Schoeneberger and others, 2002) and 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.

Alvin Series

Taxonomic classification: Coarse-loamy, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon for the County

Alvin fine sandy loam, on a slope of 8 percent, in a cultivated field in an area of Alvin-Princeton fine sandy loams, 6 to 12 percent slopes, eroded; 2,250 feet west and 1,550 feet north of the southeast corner of sec. 5, T. 10 N., R. 6 E., Bartholomew County, Indiana; about 2 miles northwest of St. Louis Crossing; USGS Edinburgh, Indiana, topographic quadrangle; lat. 39 degrees 20 minutes 15.5 seconds N. and long. 85 degrees 53 minutes 01.1 seconds W., NAD 27; UTM Zone 16, 596207 Easting and 4354846 Northing, NAD 83.

Ap—0 to 7 inches; brown (10YR 4/3) fine sandy loam, pale brown (10YR 6/3) dry; weak fine granular structure; very friable; common very fine and fine roots; many very fine and fine interstitial and tubular pores; moderately acid; abrupt smooth boundary.

BE—7 to 10 inches; brown (7.5YR 4/4) fine sandy loam, very pale brown (10YR 7/3) dry; weak medium granular structure; very friable; common very fine and fine roots; many very fine and fine interstitial and tubular pores; strongly acid; clear smooth boundary.

Bt1—10 to 20 inches; strong brown (7.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; firm; common very fine and fine roots; many very fine and fine interstitial and tubular pores; few distinct brown (7.5YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—20 to 40 inches; strong brown (7.5YR 4/6) fine sandy loam; moderate medium subangular blocky structure; friable; few very fine and fine roots; common very fine and fine tubular pores; many faint brown (7.5YR 4/3) clay films on faces of peds; moderately acid; clear wavy boundary.

E and Bt—40 to 70 inches; pale brown (10YR 6/3) fine sand (E); single grain; loose; 1/8- to 1/4-inch bands of dark yellowish brown (10YR 4/6) fine sandy loam (Bt) with total thickness of 1 inch; common distinct brown (7.5YR 4/3) clay bridges between sand grains; slightly acid; gradual wavy boundary.

C—70 to 80 inches; dark yellowish brown (10YR 4/6) fine sand; single grain; loose; strongly effervescent; moderately alkaline.

Range in Characteristics

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

Ap or A horizon:
- Hue—10YR
- Value—3 or 4
- Chroma—3 or 4 (Ap); 1 to 4 (A)
- Texture—fine sandy loam or loamy sand
- Reaction—strongly acid to neutral

E or BE horizon:
- Hue—7.5YR or 10YR
- Value—4 to 6
- Chroma—3 or 4
- Texture—fine sandy loam, sandy loam, or loamy fine sand
- Reaction—strongly acid to neutral

Bt horizon:
- Hue—7.5YR or 10YR
- Value—4 to 6
- Chroma—3 to 6
- Texture—sandy clay loam, fine sandy loam, sandy loam, or loam
- Reaction—strongly acid to neutral
- Content of rock fragments—0 to 5 percent

E and Bt horizon:
- Hue—7.5YR or 10YR
- Value—4 to 6
- Chroma—3 to 6
- Texture—sandy loam, loamy sand, sand, fine sandy loam, loamy fine sand, or fine sand
- Reaction—strongly acid to neutral
- Content of rock fragments—0 to 5 percent

C horizon:
- Hue—7.5YR or 10YR
- Value—4 to 6
- Chroma—3 to 6
- Texture—sand, loamy sand, sandy loam, fine sand, loamy fine sand, or fine sandy loam
- Reaction—slightly acid to moderately alkaline
- Content of rock fragments—0 to 5 percent

Avonburg Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aeric Fragic Glossaqualfs

Typical Pedon for the Series

Avonburg silt loam, on a slope of 1 percent, in a cultivated field; 490 feet west and 685 feet south of the

center of sec. 21, T. 4 N., R. 7 E., Scott County, Indiana; about 2.5 miles northeast of Austin; USGS Crothersville, Indiana, topographic quadrangle; lat. 38 degrees 46 minutes 14 seconds N. and long. 85 degrees 45minutes 02 seconds W., NAD 27; UTM Zone 16, 608544 Easting and 4292062 Northing, NAD 83.

Ap—0 to 11 inches; yellowish brown (10YR 5/4) silt loam, very pale brown (10YR 7/3) dry; weak medium granular structure; friable; common very fine roots; common fine rounded black (10YR 2/1) iron and manganese oxide concretions throughout; very strongly acid; abrupt smooth boundary.

BE—11 to 21 inches; brownish yellow (10YR 6/6) silt loam; weak medium subangular blocky structure; friable; few very fine roots; few fine rounded black (10YR 2/1) iron and manganese oxide concretions throughout; many medium prominent light gray (10YR 7/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

Btg—21 to 37 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate coarse subangular blocky; firm; few very fine roots; common distinct gray (10YR 6/1) clay films on faces of peds; common fine prominent strong brown (7.5YR 5/6) masses that have accumulated iron and are in the matrix; few fine rounded black (10YR 2/1) iron and manganese oxide concretions throughout; many faint light gray (10YR 7/2) clay depletions on faces of peds; tongues 2 to 6 inches wide filled with light gray (10YR 7/2) silt loam (about 10 percent, by volume); very strongly acid; gradual wavy boundary.

2Btgx/Eg—37 to 52 inches; 50 percent light brownish gray (10YR 6/2) silt loam (Btgx); moderate coarse and very coarse prismatic structure parting to moderate coarse subangular blocky; very firm; brittle; common prominent gray (10YR 6/1) clay films on vertical faces of peds; many coarse prominent strong brown (7.5YR 5/6) masses that have accumulated iron and are in the matrix; common faint light gray (10YR 7/2) clay depletions on vertical faces of peds; 50 percent light gray (10YR 7/2) silt loam (Eg) as tongues 2 to 6 inches wide at the top but taper to 1 or 2 inches at the bottom and having a concentration of illuviated grayish brown (10YR 5/2) silty clay loam in the lower part; weak medium and coarse subangular blocky structure; friable; few very fine roots; few fine rounded black (10YR 2/1) iron and manganese oxide concretions throughout; 21 percent sand; 1 percent gravel; extremely acid; gradual wavy boundary.

2Btx—52 to 83 inches; yellowish brown (10YR 5/6) silt loam; moderate very coarse prismatic structure parting to weak coarse subangular blocky; very firm; common prominent gray (10Y 6/1) clay films on faces of peds and in pores; few fine rounded black (10YR 2/1) iron and manganese oxide concretions throughout; common coarse prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 25 percent light gray (10YR 7/2) friable silt loam between peds; 24 percent sand; 1 percent gravel; 75 percent brittle; extremely acid; diffuse wavy boundary.

3Btb—83 to 90 inches; strong brown (7.5YR 5/8) clay loam; moderate coarse subangular blocky structure; firm; many prominent gray (10YR 6/1) clay films on faces of peds; few fine irregular black (10YR 2/1) iron and manganese oxide concretions throughout; many medium prominent light gray (10YR 7/1) iron depletions in the matrix; 4 percent gravel; strongly acid.

Range in Characteristics

Thickness of the loess: 60 to 90 inches

Depth to a layer that has fragic soil properties: 20 to 40 inches

Depth to the base of the argillic horizon: More than 80 inches

Ap horizon:
- Hue—10YR
- Value—4 or 5
- Chroma—2 to 4
- Texture—silt loam
- Reaction—very strongly acid to neutral

A horizon:
- Thickness—2 to 4 inches
- Hue—10YR
- Value—3 or 4
- Chroma—1 or 2
- Texture—silt loam
- Reaction—very strongly acid or strongly acid

BE horizon:
- Hue—10YR
- Value—5 or 6
- Chroma—2 to 6
- Texture—silt loam
- Reaction—very strongly acid or strongly acid

Bt or Btg horizon:
- Hue—10YR
- Value—5 or 6
- Chroma—1 to 6

Texture—silt loam or silty clay loam
Reaction—extremely acid or very strongly acid

2Btgx/Eg or 2Btx horizon:
Hue—10YR
Value—5 or 6
Chroma—1 to 6
Texture—silt loam or silty clay loam
Reaction—extremely acid to strongly acid
Content of rock fragments—1 to 2 percent gravel

3Btb horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—2 to 8
Texture—clay loam
Reaction—strongly acid to neutral
Content of rock fragments—2 to 10 percent gravel, cobbles, and stones

Ayrshire Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Aeric Endoaqualfs

Typical Pedon for the Series

Ayrshire fine sandy loam, on a convex slope of 1 percent, in a cultivated field; 2,490 feet west and 1,540 feet south of the northeast corner of sec. 25, T. 10 N., R. 7 W., Clay County, Indiana; about 1.5 miles west of Clay City; USGS Saline City, Indiana, topographic quadrangle; lat. 39 degrees 16 minutes 52.5 seconds N. and long. 87 degrees 08 minutes 14.2 seconds W., NAD 27; UTM Zone 16, 488160 Easting and 4348000 Northing, NAD 83.

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) fine sandy loam, light brownish gray (10YR 6/2) dry; weak very fine granular structure; friable; neutral; abrupt smooth boundary.

BE—8 to 14 inches; light brownish gray (10YR 6/2) fine sandy loam; weak medium platy structure; friable; common fine roots; common fine distinct dark yellowish brown (10YR 4/4) masses that have accumulated iron and are in the matrix; many faint light gray (10YR 7/2) clay depletions on faces of peds; neutral; clear wavy boundary.

Bt—14 to 27 inches; yellowish brown (10YR 5/4) loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; many distinct light brownish gray (10YR 6/2) clay films on faces of peds; common fine distinct strong brown (7.5YR 5/6) masses that have accumulated iron and are in the matrix; many fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; common distinct light gray (10YR 7/2) clay depletions on faces of prisms; moderately acid; gradual wavy boundary.

Btg1—27 to 35 inches; light brownish gray (10YR 6/2) sandy clay loam; weak coarse prismatic structure parting to moderate medium and coarse subangular blocky; firm; many faint grayish brown (10YR 5/2) clay films on faces of peds; many fine prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; common prominent rounded black (10YR 2/1) weakly cemented iron and manganese oxide concretions; few faint light gray (10YR 7/2) clay depletions on vertical faces of prisms; strongly acid; gradual wavy boundary.

Btg2—35 to 45 inches; gray (10YR 6/1) fine sandy loam; weak coarse and very coarse subangular blocky structure; friable; few faint grayish brown (10YR 5/2) clay films on faces of peds; many fine distinct dark yellowish brown (10YR 4/4) and prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few fine and medium prominent rounded black (10YR 2/1) weakly cemented iron and manganese oxide concretions; slightly acid; clear wavy boundary.

BC—45 to 55 inches; yellowish brown (10YR 5/6) fine sandy loam; weak very coarse subangular blocky structure; friable; common fine faint strong brown (7.5YR 5/6) masses that have accumulated iron and are in the matrix; common fine and medium prominent rounded black (10YR 2/1) weakly cemented iron and manganese oxide concretions; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; neutral; clear wavy boundary.

C—55 to 80 inches; yellowish brown (10YR 5/4) fine sand with strata of fine sandy loam; massive and single grain; loose; common fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; neutral.

Range in Characteristics

Depth to base of the argillic horizon: 40 to 60 inches
Content of rock fragments: 0 to 1 percent throughout the profile

Ap or A horizon:
Hue—10YR
Value—3 to 5; where the value is 3, the A horizon is less than 5 inches thick
Chroma—1 to 3
Texture—fine sandy loam
Reaction—moderately acid to neutral

BE or E horizon:
Hue—10YR
Value—5 or 6
Chroma—1 or 2
Texture—fine sandy loam, sandy loam, or loam
Reaction—moderately acid to neutral

Bt or Btg horizon (upper part):
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 to 6
Texture—sandy clay loam, loam, or clay loam
Reaction—strongly acid to slightly acid

Bt or Btg horizon (lower part) or BC or BCg horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 to 6
Texture—fine sandy loam, sandy loam, clay loam, or sandy clay loam
Reaction—strongly acid to neutral

C or Cg horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—1 to 6
Texture—fine sand, loamy fine sand, fine sandy loam, sandy loam, or loam with strata of silt to very fine sand
Reaction—neutral to moderately alkaline

Bartle Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aeric Fragiaqualfs

Taxadjunct features: The Bartle soils in this survey area do not have a subhorizon with a fragipan that has vertical streaks with a mean horizontal dimension of 4 inches or more. This difference, however, does not affect the usefulness or behavior of the soils. These soils are classified as fine-silty, mixed, active, mesic Aeric Fragic Epiaqualfs.

Typical Pedon for the MLRA

Bartle silt loam, in a nearly level area in a cultivated field; 625 feet north and 800 feet east of the southwest corner of sec. 19, T. 2 S., R. 5 E., Floyd County, Indiana; about 2 miles southeast of Byrneville; USGS Crandall, Indiana, topographic quadrangle; lat. 38 degrees 19 minutes 05 seconds N. and long. 86 degrees 00 minutes 33 seconds W., NAD 27; UTM Zone 16, 586618 Easting and 4241575 Northing, NAD 83.

Ap—0 to 8 inches; yellowish brown (10YR 5/4) silt loam, very pale brown (10YR 7/3) dry; moderate fine and medium granular structure; friable; common very fine and fine roots; neutral; abrupt smooth boundary.

EB—8 to 14 inches; pale brown (10YR 6/3) silt loam; weak fine subangular blocky structure; friable; few very fine roots; common fine and medium rounded black (10YR 2/1) iron and manganese oxide concretions throughout; common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; strongly acid; abrupt smooth boundary.

BE—14 to 17 inches; light gray (10YR 7/2) silt loam; weak fine subangular blocky structure; friable; common fine prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; common fine and medium rounded black (10YR 2/1) iron and manganese oxide concretions throughout; strongly acid; clear smooth boundary.

Bt—17 to 30 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; friable; many distinct light brownish gray (10YR 6/2) and common distinct brown (10YR 5/3) clay films on faces of peds and in pores; common fine and medium rounded black (10YR 2/1) iron and manganese oxide concretions throughout; many medium faint light brownish gray (10YR 6/2) iron depletions in the matrix; extremely acid; clear wavy boundary.

Btx—30 to 50 inches; brown (10YR 5/3) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; many distinct light brownish gray (10YR 6/2) clay films on vertical faces of peds; common medium faint light yellowish brown (10YR 6/4) and common fine prominent strong brown (7.5YR 5/8) masses that have accumulated iron and are in the matrix; common fine and medium rounded black (10YR 2/1) iron and manganese oxide concretions throughout; many medium faint light brownish gray (10YR 6/2) iron depletions in the matrix; 45 percent brittle; very strongly acid; clear wavy boundary.

BC1—50 to 66 inches; pale brown (10YR 6/3) silt loam; weak medium and coarse subangular blocky structure; firm; common prominent very dark gray (N 3/0) iron and manganese oxide stains in root channels; many medium faint light gray (10YR 7/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

BC2—66 to 80 inches; brownish yellow (10YR 6/8) silt loam; weak coarse subangular blocky structure; firm; common prominent very dark gray (N 3/0) iron and manganese oxide stains in root channels; many medium prominent light gray (10YR 7/2) iron

depletions in the matrix; 5 percent gravel; very strongly acid.

Range in Characteristics

Depth to the base of the argillic horizon: 48 to 72 inches
Depth to a layer that has fragic soil properties: 24 to 40 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid to neutral

EB or BE horizon:
Hue—10YR
Value—5 to 7
Chroma—2 to 6
Texture—silt loam
Reaction—extremely acid to moderately acid

Bt or Btg horizon:
Hue—10YR
Value—5 to 7
Chroma—2 to 6
Texture—silt loam or silty clay loam
Reaction—extremely acid to moderately acid

Btx or Btgx horizon:
Hue—10YR
Value—5 or 6
Chroma—1 to 6
Texture—silt loam or silty clay loam
Reaction—extremely acid to strongly acid

BC or BCg horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 8
Texture—silt loam, silty clay loam, or loam
Reaction—very strongly acid to neutral

Beanblossom Series

Taxonomic classification: Loamy-skeletal, mixed, active, mesic Fluventic Dystrudepts

Typical Pedon for the Series

Beanblossom silt loam (fig. 28), on a slope of 1 percent, in an idle field; 460 feet south and 430 feet west of the northeast corner of sec. 22, T. 7 N., R. 2 E., Jackson County, Indiana; about 6 miles west of Houston; USGS Story, Indiana, topographic quadrangle; lat. 39 degrees 01 minute 52 seconds N. and long. 86 degrees 17 minutes 04 seconds W., NAD 27; UTM Zone 16, 561917 Easting and 4320491 Northing, NAD 83.

Ap—0 to 5 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine and medium granular structure; friable; many fine roots; about 10 percent siltstone gravel; strongly acid; clear smooth boundary.
Bw—5 to 24 inches; dark yellowish brown (10YR 4/4) silt loam; weak coarse subangular blocky structure; friable; common very fine and fine roots; about 5 percent siltstone gravel; moderately acid; clear wavy boundary.
2C1—24 to 48 inches; brown (10YR 5/3) extremely channery silt loam; massive; very friable; few fine roots; 70 percent siltstone channers; moderately acid; clear wavy boundary.
2C2—48 to 54 inches; yellowish brown (10YR 5/4) very channery silt loam; massive; very friable; 38 percent siltstone channers; moderately acid; clear smooth boundary.
2Cr—54 to 60 inches; moderately cemented siltstone bedrock.

Range in Characteristics

Depth to bedrock (paralithic contact): 40 to 60 inches
Depth to the base of the cambic horizon: 20 to 34 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 14 percent gravel and channers

Bw horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—silt loam or loam or the channery and very channery analogs of these textures
Reaction—strongly acid to neutral
Content of rock fragments—5 to 50 percent channers

2C horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—very channery loam, very channery silt loam, extremely channery loam, or extremely channery silt loam
Reaction—moderately acid or slightly acid

Content of rock fragments—35 to 80 percent channers

Bellcreek Series

Taxonomic classification: Fine, smectitic, mesic Fluvaquentic Endoaquolls

Typical Pedon for the Series

Bellcreek silty clay loam, in a nearly level area in a cultivated field; 1,200 feet west and 100 feet north of the southeast corner of sec. 10, T. 19 N., R. 9 E., Delaware County, Indiana; about 5 miles west of Cowan; USGS Sulphur Springs, Indiana, topographic quadrangle; lat. 40 degrees 06 minutes 23 seconds N. and long. 85 degrees 29 minutes 05 seconds W., NAD 27; UTM Zone 16, 629147 Easting and 4440671 Northing, NAD 83.

Ap—0 to 10 inches; very dark grayish brown (2.5Y 3/2) silty clay loam, grayish brown (2.5Y 5/2) dry; weak medium subangular blocky structure parting to weak fine and medium granular; firm; common very fine and fine roots; few very fine interstitial and tubular pores; 1 percent rock fragments; slightly alkaline; abrupt smooth boundary.

Bg1—10 to 17 inches; olive gray (5Y 4/2) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; common fine and very fine roots; common very fine interstitial and tubular pores; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds and in root channels; common fine prominent yellowish brown (10YR 5/4) masses that have accumulated iron, have diffuse boundaries, and are in the matrix; few fine irregular black (10YR 2/1) iron and manganese oxide concretions in the matrix; 1 percent rock fragments; slightly alkaline; clear smooth boundary.

Bg2—17 to 28 inches; dark gray (5Y 4/1) silty clay; moderate coarse prismatic structure parting to moderate medium and coarse subangular blocky; firm; common very fine roots; common very fine interstitial and tubular pores; common very dark gray (5Y 3/1) krotovinas in vertical streaks about 2 inches wide and 2 feet apart; common medium prominent yellowish brown (10YR 5/4) masses that have accumulated iron, have diffuse boundaries, and are in the matrix; few fine irregular black (10YR 2/1) iron and manganese oxide concretions in the matrix; 1 percent rock fragments; slightly alkaline; clear wavy boundary.

Bg3—28 to 48 inches; gray (N 5/0) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; common very fine interstitial and tubular pores; common very dark gray (5Y 3/1) krotovinas in vertical streaks about 2 inches wide and 2 feet apart; many medium prominent yellowish brown (10YR 5/6) masses that have accumulated iron, have diffuse boundaries, and are in the matrix; common fine irregular black (10YR 2/1) iron and manganese oxide concretions in the matrix; 1 percent rock fragments; slightly alkaline; clear wavy boundary.

Bg4—48 to 64 inches; grayish brown (2.5Y 5/2) silty clay loam; weak coarse prismatic structure parting to moderate coarse subangular blocky; firm; few very fine roots; common very fine and fine interstitial and tubular pores; many medium prominent yellowish brown (10YR 5/6) masses that have accumulated iron, have diffuse boundaries, and are in the matrix; common fine black (10YR 2/1) iron and manganese oxide concretions in the matrix; 1 percent rock fragments; slightly alkaline; clear wavy boundary.

Cg—64 to 80 inches; gray (5Y 5/1) stratified sandy loam (60 percent) and loam (40 percent); massive; friable; common fine prominent light olive brown (2.5Y 5/4) masses that have accumulated iron, have diffuse boundaries, and are in the matrix; 7 percent rock fragments; strongly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 23 inches

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

Ap or A horizon:
- Hue—10YR or 2.5Y
- Value—2, 2.5, or 3
- Chroma—1 or 2
- Texture—silty clay loam or silt loam
- Reaction—slightly acid to slightly alkaline
- Content of rock fragments—0 to 5 percent

Bg horizon:
- Hue—10YR to 5Y or N
- Value—4 to 6
- Chroma—0 to 2
- Texture—silty clay loam, clay loam, silty clay, or clay
- Reaction—slightly acid to slightly alkaline
- Content of rock fragments—0 to 5 percent

Cg horizon:
- Hue—10YR to 5Y
- Value—4 or 5

Chroma—1 or 2
Texture—silty clay loam, clay loam, sandy clay loam, loam, fine sandy loam, sandy loam, or loamy sand
Reaction—neutral to moderately alkaline
Content of rock fragments—0 to 10 percent

Birds Series

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

Typical Pedon for the Series

Birds silt loam, in a nearly level area in a cultivated field; 600 feet west and 50 feet north of the center of sec. 13, T. 3 N., R. 12 W., Lawrence County, Illinois; about 0.2 mile south of Lawrenceville; USGS Lawrenceville, Illinois, topographic quadrangle; lat. 38 degrees 41 minutes 41 seconds N. and long. 87 degrees 41 minutes 38 seconds W., NAD 27; UTM Zone 16, 439654 Easting and 4283135 Northing, NAD 83.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; neutral; abrupt smooth boundary.

ACg—6 to 22 inches; gray (10YR 6/1) silt loam; weak fine granular structure; friable; common fine distinct dark yellowish brown (10YR 4/4) and brown (10YR 5/3) masses that have accumulated iron and are in the matrix; few very dark grayish brown (10YR 3/2) masses in which iron and manganese oxide have accumulated; neutral; gradual smooth boundary.

Cg—22 to 60 inches; gray (10YR 6/1) silt loam; massive; friable; common medium and coarse distinct dark yellowish brown (10YR 4/4) and prominent light olive brown (2.5Y 5/4) masses that have accumulated iron and are in the matrix; few brown (10YR 5/3) iron and manganese oxide concretions; common medium and coarse faint grayish brown (10YR 5/2) iron depletions in the matrix; slightly alkaline.

Range in Characteristics

Ap, A, or ACg horizon:
Hue—10YR to 5Y
Value—4 to 6
Chroma—1 or 2
Texture—silt loam
Reaction—moderately acid to neutral

Cg horizon:
Hue—10YR to 5Y
Value—4 to 7
Chroma—1 or 2
Texture—silt loam; strata of loam below a depth of 40 inches
Reaction—moderately acid to slightly alkaline

Blocher Series

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

Taxadjunct features: The Blocher soils in map units BlgC3 and BnuD3 have a thinner loess cap than is defined as the range for the series and are shallower to soil material derived from loamy till. These differences, however, do not affect the usefulness or behavior of the soils. These soils are classified as fine-loamy, mixed, active, mesic Oxyaquic Hapludalfs.

Typical Pedon for the Series

Blocher silt loam, on a slope of 9 percent, in a hayfield; 390 feet east and 720 feet north of the southwest corner of sec. 3, T. 4 N., R. 7 E., Scott County, Indiana; about 5 miles northeast of Crothersville; USGS Deputy, Indiana, topographic quadrangle; lat. 38 degrees 48 minutes 37 seconds N. and long. 85 degrees 44 minutes 19 seconds W., NAD 27; UTM Zone 16, 609521 Easting and 4296485 Northing, NAD 83.

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

Bt1—6 to 17 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots; many distinct brown (7.5YR 5/4) clay films on faces of peds; common distinct dark yellowish brown (10YR 4/4) organic coatings in root channels; few distinct yellowish brown (10YR 5/4) silt coatings on faces of peds; very strongly acid; clear wavy boundary.

2Bt2—17 to 24 inches; strong brown (7.5YR 5/6) clay loam; strong fine and medium subangular blocky structure; firm; common very fine roots; common prominent dark yellowish brown (10YR 4/4) and very few prominent grayish brown (10YR 5/2) clay films on faces of peds; many distinct pale brown (10YR 6/3) silt coatings on faces of peds; 1 percent gravel; very strongly acid; gradual wavy boundary.

2Bt3—24 to 33 inches; yellowish brown (10YR 5/6) clay loam; strong fine and medium angular blocky structure; very firm; few very fine roots between

peds; many distinct strong brown (7.5YR 5/6), common prominent grayish brown (10YR 5/2), and few distinct brown (7.5YR 4/4) clay films on faces of peds; common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 8 percent gravel; very strongly acid; clear wavy boundary.

2Bt4—33 to 44 inches; strong brown (7.5YR 5/6) clay; strong fine and medium angular blocky structure; very firm; few very fine roots between peds; many distinct strong brown (7.5YR 4/6) and few prominent grayish brown (10YR 5/2) clay films on faces of peds; few fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 10 percent gravel; strongly acid; gradual wavy boundary.

2Bt5—44 to 53 inches; yellowish brown (10YR 5/6) clay loam; moderate fine and medium subangular blocky structure; very firm; many distinct dark yellowish brown (10YR 4/4) and few distinct grayish brown (10YR 5/2) clay films on faces of peds; common medium irregular masses of iron and manganese oxides throughout; 3 percent gravel; slightly acid; gradual wavy boundary.

2Bt6—53 to 62 inches; yellowish brown (10YR 5/6) clay loam; moderate fine and medium subangular blocky structure; firm; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few medium irregular masses of iron and manganese oxides throughout; 3 percent gravel; neutral; gradual wavy boundary.

2BCt—62 to 76 inches; yellowish brown (10YR 5/6) clay loam; weak fine and medium subangular blocky structure; firm; very few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few medium irregular masses of iron and manganese oxides throughout; 3 percent gravel; neutral; gradual wavy boundary.

2C—76 to 80 inches; yellowish brown (10YR 5/4) loam (65 percent) with pockets of clay loam (35 percent); common coarse distinct strong brown (7.5YR 5/6) mottles; massive; friable; common medium and coarse irregular masses of iron and manganese oxides throughout; 3 percent gravel; slightly alkaline.

Range in Characteristics

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

Thickness of the loess and loamy material: 16 to 36 inches

Ap horizon:
- Hue—10YR
- Value—4 or 5
- Chroma—3 to 6
- Texture—silt loam
- Reaction—very strongly acid to neutral

A horizon (where present):
- Thickness—2 to 5 inches
- Hue—10YR
- Value—3 or 4
- Chroma—2 or 3
- Texture—silt loam
- Reaction—very strongly acid or strongly acid

Bt horizon:
- Hue—7.5YR or 10YR
- Value—4 or 5
- Chroma—4 to 6
- Texture—silt loam, loam, or silty clay loam
- Reaction—very strongly acid or strongly acid

2Bt or 2BCt horizon:
- Hue—7.5YR or 10YR
- Value—5
- Chroma—4 to 8
- Texture—clay loam or clay
- Reaction—very strongly acid or strongly acid in the upper part; ranges to slightly alkaline in the lower part
- Content of rock fragments—3 to 10 percent gravel and cobbles

2C horizon:
- Hue—10YR
- Value—5 or 6
- Chroma—3 or 4
- Texture—loam or clay loam
- Reaction—slightly alkaline or moderately alkaline
- Content of rock fragments—3 to 10 percent gravel and cobbles

Bloomfield Series

Taxonomic classification: Sandy, mixed, mesic Lamellic Hapludalfs

Typical Pedon for the County

Bloomfield loamy sand, on a convex slope of 8 percent, in a cultivated field; in an area of Bloomfield-Alvin loamy sands, 6 to 12 percent slopes; 2,570 feet west and 1,092 feet north of the southeast corner of sec. 33, T. 9 N., R. 6 E., Bartholomew County, Indiana; about 1.5 miles southwest of Jewell Village; USGS Elizabeth, Indiana, topographic quadrangle; lat. 39 degrees 10 minutes 30.7 seconds N. and long. 85 degrees 51 minutes 56.5 seconds W., NAD 27; UTM Zone 16, 597981 Easting and 4336838 Northing, NAD 83.

Ap—0 to 9 inches; brown (10YR 4/3) loamy sand, pale brown (10YR 6/3) dry; weak fine granular structure; very friable; many very fine and fine roots; moderately acid; abrupt smooth boundary.

E1—9 to 14 inches; brown (10YR 5/3) loamy sand; single grain; loose; many very fine and fine roots; moderately acid; gradual smooth boundary.

E2—14 to 33 inches; yellowish brown (10YR 5/4) fine sand; single grain; loose; many very fine and fine roots; moderately acid; abrupt wavy boundary.

E and Bt—33 to 72 inches; pale brown (10YR 6/3) fine sand (E); single grain; loose; brown (7.5YR 4/4) and dark yellowish brown (10YR 4/4) loamy sand (Bt); massive; friable; lamellae are wavy and discontinuous and range in thickness from 1/4 inch to 4 inches; thicker bands are below a depth of 53 inches (Bt); moderately acid; gradual irregular boundary.

C—72 to 80 inches; pale brown (10YR 6/3) and very pale brown (10YR 7/3) fine sand; single grain; loose; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the solum: 60 to more than 80 inches

Ap or A horizon:
Hue—10YR
Value—3 or 4
Chroma—2 to 4
Texture—loamy sand
Reaction—strongly acid to neutral

E horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—loamy fine sand, loamy sand, fine sand, or sand
Reaction—strongly acid to neutral

E part of E and Bt or Bt and E horizons:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—loamy sand, loamy fine sand, fine sand, or sand
Reaction—moderately acid to neutral

Bt part of E and Bt or Bt and E horizons:
Hue—5YR to 10YR
Value—3 to 5
Chroma—3 to 6
Texture—sandy loam, fine sandy loam, loamy sand, loamy fine sand, sand, or fine sand
Reaction—moderately acid to neutral

C horizon:
Hue—10YR
Value—4 to 7
Chroma—3 to 6
Texture—sand, fine sand, or loamy fine sand
Reaction—slightly acid to moderately alkaline

Bonnell Series

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

Typical Pedon for the Series

Bonnell silt loam, on a convex, east-facing slope of 25 percent, in a forested area; 700 feet north and 2,000 feet east of the southwest corner of sec. 14, T. 4 N., R. 3 W., Ohio County, Indiana; about 0.5 mile north of Bear Branch; USGS Bear Branch, Indiana, topographic quadrangle; lat. 38 degrees 55 minutes 08 seconds N. and long. 85 degrees 04 minutes 22 seconds W., NAD 27; UTM Zone 16, 66708 Easting and 4309547 Northing, NAD 83.

A—0 to 3 inches; very dark gray (10YR 3/1) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; many coarse roots; very strongly acid; clear smooth boundary.

EB—3 to 6 inches; dark grayish brown (10YR 4/2) silt loam; moderate medium granular structure; friable; many fine and coarse roots; very strongly acid; clear wavy boundary.

Bt1—6 to 9 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; friable; common fine and medium roots; few faint yellowish brown (10YR 5/4) clay films on faces of peds; strongly acid; clear wavy boundary.

2Bt2—9 to 26 inches; brown (7.5YR 4/4) clay; moderate medium angular blocky structure; firm; common fine and medium roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; very strongly acid; clear wavy boundary.

2Bt3—26 to 36 inches; dark yellowish brown (10YR 4/4) clay; moderate medium subangular and angular blocky structure; firm; common fine and medium roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; few fine black (10YR 2/1) iron and manganese oxide concretions throughout; 4 percent gravel; very strongly acid; clear wavy boundary.

2Bt4—36 to 44 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; firm; few fine and medium roots; many distinct dark yellowish brown (10YR 4/4) clay films

on faces of peds; few fine black (10YR 2/1) iron and manganese oxide concretions throughout; 3 percent gravel; very strongly acid; clear wavy boundary.

2Bt5—44 to 60 inches; dark yellowish brown (10YR 4/4) clay loam; weak coarse subangular blocky structure; firm; few fine and medium roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine black (10YR 2/1) iron and manganese oxide concretions throughout; 3 percent gravel; strongly acid in the upper part and slightly acid in the lower part; gradual wavy boundary.

2BCt—60 to 70 inches; brown (10YR 5/3) clay loam; weak coarse subangular blocky structure; firm; few distinct dark yellowish brown (10Y 4/4) clay films on faces of peds; common fine black (10YR 2/1) iron and manganese oxide concretions throughout; 5 percent gravel; strongly effervescent; slightly alkaline; gradual wavy boundary.

2C—70 to 80 inches; brown (10YR 5/3) clay loam; massive; firm; 5 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: Less than 18 inches
Depth to the base of the argillic horizon: 40 to 65 inches

A horizon:
Thickness—2 to 5 inches
Hue—10YR
Value—2 to 4
Chroma—1 or 2
Texture—silt loam
Reaction—very strongly acid or strongly acid

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 6
Texture—silt loam or clay loam
Reaction—very strongly acid to neutral

EB or BE horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—loam or silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—10YR
Value—5
Chroma—4 to 6
Texture—loam, silt loam, or silty clay loam
Reaction—very strongly acid or strongly acid

2Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 8
Texture—clay loam or clay
Reaction—very strongly acid or strongly acid in the upper part; ranges to slightly alkaline in the lower part
Content of rock fragments—3 to 5 percent gravel

2BCt horizon:
Hue—10YR
Value—5
Chroma—3 to 6
Texture—clay loam or loam
Reaction—slightly acid to slightly alkaline
Content of rock fragments—3 to 8 percent gravel

2C horizon:
Hue—10YR
Value—5 or 6
Chroma—3 to 6
Texture—loam or clay loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—3 to 8 percent gravel

Bonnie Series

Taxonomic classification: Fine-silty, mixed, active, acid, mesic Typic Fluvaquents

Typical Pedon for the MLRA

Bonnie silt loam, on a slope of 0.5 percent, in a cultivated field; 1,160 feet west and 1,385 feet north of the center of sec. 9, T. 4 N., R. 7 E., Scott County, Indiana; about 0.5 mile northwest of Crothersville; USGS Scottsburg, Indiana, topographic quadrangle; lat. 38 degrees 48 minutes 18 seconds N. and long. 85 degrees 51 minutes 01 second W., NAD 27; UTM Zone 16, 599832 Easting and 4295771 Northing, NAD 83.

Ap—0 to 9 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; moderate medium granular structure; friable; common very fine roots; few fine rounded iron and manganese oxide concretions throughout; common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; slightly acid; abrupt smooth boundary.

Cg1—9 to 20 inches; light brownish gray (10YR 6/2) silt loam; weak thick platy structure; friable; few very fine roots; common medium faint pale brown (10YR 6/3) masses that have accumulated iron and are in the matrix; common prominent yellowish red (5YR 4/6) iron stains lining pores

and root channels; few fine rounded iron and manganese oxide concretions throughout; common fine irregular iron nodules; slightly acid; gradual wavy boundary.

Cg2—20 to 31 inches; light gray (10YR 7/2) silt loam; massive; friable; few very fine roots; common medium prominent yellowish brown (10YR 5/6) and few faint pale brown (10YR 6/3) masses that have accumulated iron and are in the matrix; few prominent yellowish red (5YR 4/6) iron stains lining pores and root channels; few fine rounded iron and manganese oxide concretions throughout; few fine irregular iron nodules; strongly acid; gradual wavy boundary.

Cg3—31 to 47 inches; gray (10YR 6/1) silt loam; massive; friable; few medium prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; common prominent yellowish red (5YR 4/6) iron stains lining pores and root channels; few medium irregular iron and manganese oxide concretions throughout; common fine irregular iron nodules; strongly acid; gradual wavy boundary.

Cg4—47 to 60 inches; light gray (10YR 7/1) silt loam; massive; friable; common medium prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; common prominent yellowish red (5YR 5/8) iron stains lining pores; common fine irregular iron nodules; strongly acid.

Range in Characteristics

Ap or A horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 3
Texture—silt loam
Reaction—very strongly acid to neutral

Cg horizon:
Hue—10YR, 2.5Y, or N
Value—5 to 7
Chroma—0 to 2
Texture—silt loam; silty clay loam below a depth of 40 inches
Reaction—commonly very strongly acid or strongly acid; ranges to slightly acid

Brownstown Series

Taxonomic classification: Loamy-skeletal, mixed, active, mesic Typic Dystrudepts

Typical Pedon for the Series

Brownstown silt loam, on a convex, southeast-facing slope of 48 percent, in a forested area; 500 feet west and 1,550 feet south of the northeast corner of sec. 28, T. 2 N., R. 6 E.; Scott County, Indiana; about 1 mile north of New Liberty; USGS Henryville, Indiana, topographic quadrangle; lat. 38 degrees 35 minutes 04 seconds N. and long. 85 degrees 51 minutes 58 seconds W., NAD 27; UTM Zone 16, 598760 Easting and 4271279 Northing, NAD 83.

Oi—0 to 1 inch; partially decomposed leaves from mixed deciduous trees.

E/A—1 to 6 inches; 90 percent light yellowish brown (10YR 6/4) (E) and 10 percent dark grayish brown (10YR 4/2) (A) silt loam, very pale brown (10YR 8/4) and light brownish gray (10YR 6/2) dry; weak medium granular structure; friable; many very fine to medium roots; 5 percent siltstone channers; very strongly acid; clear wavy boundary.

Bw—6 to 18 inches; brownish yellow (10YR 6/6) channery silt loam; weak medium subangular blocky structure; friable; few very fine and fine and common medium and coarse roots; 20 percent channers; very strongly acid; gradual wavy boundary.

CB—18 to 36 inches; yellowish brown (10YR 5/4) extremely channery silt loam; weak fine subangular blocky structure; friable; few very fine to medium roots; 65 percent channers and 5 percent flagstones; very strongly acid; gradual wavy boundary.

R—36 to 60 inches; fractured, strongly cemented siltstone bedrock.

Range in Characteristics

Depth to the base of the cambic horizon: 12 to 24 inches

Depth to bedrock (lithic contact): 20 to 40 inches

E/A horizon (A part) or A horizon:
Hue—10YR
Value—3 or 4
Chroma—2 or 3

E/A horizon (E part):
Hue—10YR
Value—5 or 6
Chroma—4 to 6
Texture—silt loam or channery silt loam
Reaction—extremely acid to slightly acid
Content of rock fragments—0 to 34 percent channers and flagstones

Bw horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 6
Texture—channery silt loam, very channery silt loam, or extremely channery silt loam
Reaction—extremely acid to strongly acid
Content of rock fragments—20 to 75 percent channers and flagstones

CB horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 6
Texture—extremely channery silt loam
Reaction—extremely acid to strongly acid
Content of rock fragments—60 to 85 percent channers and flagstones

Casco Series

Taxonomic classification: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Inceptic Hapludalfs

Typical Pedon for the County

Casco sandy loam, on a convex, south-facing slope of 6 percent, in a cultivated field; in an area of Fox-Casco sandy loams, 6 to 12 percent slopes, severely eroded; 1,350 feet east and 1,350 feet south of northwest corner of sec. 4, T. 10 N., R. 6 E., Bartholomew County, Indiana; about 2 miles north and 1.5 miles west of St. Louis Crossing; USGS Hope, Indiana, topographic quadrangle; lat. 39 degrees 20 minutes 39.2 seconds N. and long. 85 degrees 52 minutes 15.4 seconds W., NAD 27; UTM Zone 16, 597292 Easting and 4355590 Northing, NAD 83.

Ap—0 to 4 inches; brown (10YR 4/3) sandy loam, pale brown (10YR 6/3) dry; moderate medium subangular blocky structure parting to weak fine granular; friable; few fine roots; 8 percent rock fragments; neutral; abrupt smooth boundary.

Bt1—4 to 8 inches; brown (7.5YR 4/4) sandy clay loam; moderate medium subangular blocky structure; firm; common distinct brown (7.5YR 4/3) clay films on faces of peds; 13 percent rock fragments; neutral; clear smooth boundary.

Bt2—8 to 12 inches; brown (7.5YR 4/4) gravelly sandy clay loam; moderate medium subangular blocky structure; firm; common distinct brown (7.5YR 4/3) clay films on faces of peds; 18 percent rock fragments; neutral; abrupt wavy boundary.

BCt—12 to 16 inches; brown (7.5YR 4/4) very gravelly sandy clay loam; weak fine subangular blocky structure; friable; common distinct brown (7.5YR 4/3) clay films on rock fragments and clay bridges between sand grains; 35 percent rock fragments; slightly alkaline; abrupt wavy boundary.

2C—16 to 60 inches; light yellowish brown (10YR 6/4) stratified extremely gravelly coarse sand; single grain; loose; 60 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 10 to 20 inches
Depth to stratified sandy outwash: 10 to 20 inches
Content of rock fragments: 0 to 35 percent in the loamy mantle; 0 to 95 percent in the stratified sandy outwash
Reaction: Dominantly moderately acid to neutral in the loamy mantle but ranges to slightly alkaline; slightly alkaline or moderately alkaline in the sandy outwash
Depth to carbonates: 10 to 20 inches

Ap horizon:
Hue—7.5YR or 10YR
Value—3 or 4
Chroma—2 or 3; 4 in some severely eroded areas
Texture—sandy loam

A horizon:
Hue—7.5YR or 10YR
Value—2 or 3
Chroma—1 or 2
Texture—sandy loam

E horizon (where present):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 or 3
Texture—loam, silt loam, fine sandy loam, sandy loam, or gravelly loam

Bt horizon:
Hue—5YR to 10YR
Value—3 to 5; 2 in the lower part
Chroma—3 or 4; 1 or 2 in the lower part
Texture—sandy clay loam, loam, or clay loam or the gravelly analogs of these textures

2C horizon:
Hue—7.5YR or 10YR
Value—4 to 7
Chroma—3 or 4
Texture—stratified sand or coarse sand or the gravelly to extremely gravelly analogs of these textures; or strata of gravel

Chetwynd Series

Taxonomic classification: Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon for the Series

Chetwynd silt loam, on a slope of 45 percent, in a forested area; 2,375 feet north and 1,385 feet east of the southwest corner of sec. 13, T. 11 N., R. 1 E., Morgan County, Indiana; about 2 miles northwest of Mahalasville; USGS Martinsville, Indiana, topographic quadrangle; lat. 39 degrees 23 minutes 25 seconds N. and long. 86 degrees 22 minutes 36 seconds W., NAD 27; UTM Zone 16, 553677 Easting and 4360279 Northing, NAD 83.

Oi—0 to 1 inch; partially decomposed leaf litter.

A—1 to 3 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; many fine and medium roots; many very fine and fine interstitial and tubular pores; moderately acid; abrupt wavy boundary.

E—3 to 8 inches; brown (10YR 5/3) silt loam; weak very fine subangular blocky structure; friable; common fine and medium roots; common very fine and fine interstitial and tubular pores; very strongly acid; clear wavy boundary.

BE—8 to 12 inches; brown (7.5YR 4/4) loam; weak very fine subangular blocky structure; friable; common fine and medium roots throughout; common very fine and fine interstitial and tubular pores; very strongly acid; clear wavy boundary.

2Bt1—12 to 20 inches; yellowish red (5YR 4/6) clay loam; moderate fine subangular blocky structure; firm; few fine and medium roots; common very fine and fine tubular pores; common distinct reddish brown (5YR 4/4) clay films on faces of peds and in pores; 1 percent fine gravel; very strongly acid; clear wavy boundary.

2Bt2—20 to 29 inches; yellowish red (5YR 5/6) sandy clay loam; moderate fine subangular blocky structure; friable; few fine and medium roots; common very fine and fine tubular pores; many distinct reddish brown (5YR 4/4) clay films on faces of peds and in pores; 1 percent fine gravel; very strongly acid; clear wavy boundary.

2Bt3—29 to 39 inches; yellowish red (5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; firm; few fine and medium roots; few very fine and fine tubular pores; many distinct reddish brown (5YR 4/4) clay films on faces of peds and in pores; 10 percent fine gravel; very strongly acid; clear wavy boundary.

2Bt4—39 to 48 inches; yellowish red (5YR 4/6) sandy clay loam; weak medium subangular blocky structure; friable; few very fine and fine tubular pores; common distinct reddish brown (5YR 4/4) clay films on faces of peds and in pores; 14 percent fine gravel; very strongly acid; clear wavy boundary.

2Bt5—48 to 56 inches; brown (7.5YR 4/4) coarse sandy loam; weak medium subangular blocky structure; very friable; few very fine and fine tubular pores; few distinct reddish brown (5YR 4/4) clay films on faces of peds and in pores; many distinct reddish brown (5YR 4/4) clay bridges between sand grains; 10 percent fine gravel; very strongly acid; gradual wavy boundary.

3Bt6—56 to 75 inches; brown (7.5YR 4/4) loamy sand; weak coarse subangular blocky structure; very friable; common distinct dark brown (7.5YR 3/4) clay bridges between sand grains; 1 percent fine gravel; very strongly acid; gradual wavy boundary.

3CB and Bt—75 to 80 inches; yellowish brown (10YR 5/6) sand (CB); single grain; loose; 1/2- to 1-inch bands of brown (7.5YR 4/4) loamy sand (Bt) with total thickness of 2 inches; 1 percent gravel; strongly acid.

Range in Characteristics

Thickness of the loess: Less than 18 inches

Depth to the base of the argillic horizon: 60 to more than 80 inches

A horizon:
- Thickness—2 to 4 inches
- Hue—10YR
- Value—3
- Chroma—2 or 3
- Texture—silt loam
- Reaction—very strongly acid to moderately acid

Ap horizon (where present):
- Hue—10YR
- Value—4 or 5
- Chroma—3 or 4
- Texture—silt loam
- Reaction—very strongly acid to neutral

E horizon:
- Hue—10YR
- Value—5 or 6
- Chroma—3 or 4
- Texture—silt loam or loam
- Reaction—very strongly acid or strongly acid

Bt horizon (where present):
- Hue—7.5YR or 10YR
- Value—5 or 6
- Chroma—4 to 8

Texture—silt loam or silty clay loam
Reaction—very strongly acid to neutral

2BE or 2Bt horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—4 to 8
Texture—loam, sandy clay loam, or clay loam above a depth of 40 inches; sandy loam, loam, sandy clay loam, or coarse sandy loam below a depth of 40 inches
Reaction—very strongly acid or strongly acid
Content of rock fragments—0 to 10 percent gravel

3Bt or 3CB and Bt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 6
Texture—loamy sand or sand with bands of loamy sand or sandy loam
Reaction—very strongly acid to moderately acid
Content of rock fragments—0 to 10 percent gravel

Cincinnati Series

Taxonomic classification: Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs

Typical Pedon for the MLRA

Cincinnati silt loam, on a slope of 7 percent, in a hayfield; 550 feet south and 320 feet east of the northwest corner of sec. 13, T. 2 N., R. 8 E., Scott County, Indiana; about 2.5 miles east of Nabb; USGS New Washington, Indiana, topographic quadrangle; lat. 38 degrees 37 minutes 03 seconds N. and long. 85 degrees 34 minutes 49 seconds W., NAD 27; UTM Zone 16, 623600 Easting and 4275493 Northing, NAD 83.

Ap—0 to 8 inches; 85 percent brown (10YR 4/3) and 15 percent yellowish brown (10YR 5/6) silt loam, pale brown (10YR 6/3) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; many very fine and fine roots; moderately acid; abrupt smooth boundary.

Bt—8 to 24 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; common very fine and fine roots; many distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; strongly acid; clear wavy boundary.

2Btx1—24 to 36 inches; yellowish brown (10YR 5/6) silt loam; moderate very coarse prismatic structure; firm; few very fine roots between peds; many distinct grayish brown (10YR 5/2) and common distinct strong brown (7.5YR 5/6) clay films on vertical faces of peds; few fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 1 percent gravel; brittle; very strongly acid; gradual wavy boundary.

2Btx2—36 to 51 inches; brownish yellow (10YR 6/6) loam; moderate very coarse prismatic structure; very firm; common prominent grayish brown (10YR 5/2) clay films on vertical faces of peds; common fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 2 percent gravel; brittle; strongly acid; gradual wavy boundary.

2Btx3—51 to 74 inches; yellowish brown (10YR 5/6) loam; weak coarse prismatic structure; firm; common distinct grayish brown (10YR 5/2) clay films on vertical faces of peds; common fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 5 percent gravel; brittle; very strongly acid; diffuse wavy boundary.

3Bt—74 to 80 inches; strong brown (7.5YR 5/8) clay loam; weak coarse subangular blocky structure; firm; common prominent gray (10YR 6/1) clay films on faces of peds; 3 percent gravel; strongly acid.

Range in Characteristics

Thickness of the loess or silty material: 18 to 40 inches

Depth to a fragipan: 20 to 36 inches; 10 to 20 inches in severely eroded areas

Parent material: Loess in the Bt horizon, pedisediment in the 2Btx horizon, and till in the 3Bt horizon

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid

2Btx horizon:
Hue—10YR
Value—5 or 6
Chroma—4 to 6
Texture—silt loam or loam
Reaction—very strongly acid to moderately acid
Content of rock fragments—0 to 5 percent gravel

3Bt horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 8
Texture—clay loam and loam
Reaction—very strongly acid to slightly acid
Content of rock fragments—3 to 10 percent gravel

Cliftycreek Series

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

Typical Pedon for the Series

Cliftycreek silt loam, on a northeast-facing slope of 4 percent, in a cultivated field; 1,200 feet east and 400 feet south of the northwest corner of sec. 1, T. 9 N., R. 7 E., Bartholomew County, Indiana; about 0.5 mile southwest of Hartsville; USGS Hartsville, Indiana, topographic quadrangle; lat. 39 degrees 15 minutes 39.2 seconds N. and long. 85 degrees 42 minutes 08.9 seconds W., NAD 27; UTM Zone 16, 611945 Easting and 4346536 Northing, NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, brown (10YR 5/3) dry; moderate medium granular structure; friable; 2 percent rock fragments; neutral; abrupt smooth boundary.

Bt1—8 to 14 inches; dark yellowish brown (10YR 4/6) silty clay loam; moderate medium subangular blocky structure; firm; many distinct brown (10YR 4/3) clay films on faces of peds; 2 percent rock fragments; neutral; clear smooth boundary.

2Bt2—14 to 30 inches; dark yellowish brown (10YR 4/6) clay loam; moderate medium subangular blocky structure; firm; many distinct brown (10YR 4/3) clay films on faces of peds; 2 percent rock fragments; slightly acid; clear smooth boundary.

2Bt3—30 to 49 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; firm; many distinct brown (10YR 4/3) clay films on faces of peds; 3 percent rock fragments; moderately acid; clear smooth boundary.

2Bt4—49 to 56 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; firm; many faint brown (10YR 4/3) clay films on faces of peds; 3 percent rock fragments; neutral; clear smooth boundary.

2Bt5—56 to 64 inches; dark yellowish brown (10YR 4/4) silty clay; moderate medium subangular blocky structure; very firm; many distinct brown (10YR 4/3) clay films on faces of peds; 3 percent rock fragments; neutral; abrupt wavy boundary.

3Bt6—64 to 70 inches; dark brown (10YR 3/3) silty clay; weak coarse subangular blocky structure; very firm; many distinct dark brown (10YR 3/3) clay films on faces of peds; 5 percent rock fragments; neutral; abrupt wavy boundary.

3R—70 to 80 inches; light yellowish brown (10YR 6/4) and very pale brown (10YR 7/4) limestone bedrock.

Range in Characteristics

Depth to the base of the argillic horizon: 60 to 80 inches
Depth to bedrock (lithic contact): 60 to 80 inches
Thickness of the loess or silty material: Less than 20 inches
Parent material: Loess in the Bt horizon, till in the 2Bt horizon, and residuum in the 3Bt, 3BC, or 3C horizon

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—slightly acid or neutral
Content of rock fragments—0 to 8 percent

Bt horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silty clay loam
Reaction—slightly acid or neutral
Content of rock fragments—0 to 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
Reaction—moderately acid to neutral
Content of rock fragments—0 to 8 percent

3Bt, 3BC, or 3C horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 or 4
Texture—silty clay loam or silty clay, or their gravelly or channery analogues
Reaction—slightly acid to moderately alkaline
Content of rock fragments—0 to 20 percent

3R layer:
Kind of bedrock—limestone or dolostone

Cobbsfork Series

Taxonomic classification: Fine-silty, mixed, active, mesic Fragic Glossaqualfs

Typical Pedon for the Series

Cobbsfork silt loam, on a slope of 0.5 percent, in a cultivated field; 150 feet west and 1,300 feet north of the southeast corner of sec. 2, T. 5 N., R. 10 E., Jefferson County, Indiana; about 10 miles north of Madison; USGS Rexville, Indiana, topographic quadrangle; lat. 38 degrees 54 minutes 06 seconds N. and long. 85 degrees 22 minutes 13 seconds W., NAD 27; UTM Zone 16, 641322 Easting and 4307133 Northing, NAD 83.

Ap1—0 to 6 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak fine granular structure; friable; many fine roots; many fine prominent yellowish brown (l0YR 5/6) masses that have accumulated iron and are in the matrix; few fine prominent strong brown (7.5YR 4/6) masses that have accumulated iron and that line tubular pores; common fine faint gray (10YR 6/1) iron depletions in the matrix; neutral; abrupt smooth boundary.

Ap2—6 to 12 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak very thick platy structure; friable; few fine roots; few fine prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few fine prominent strong brown (7.5YR 4/6) masses that have accumulated iron and that line tubular pores; common fine faint gray (10YR 6/1) iron depletions in the matrix; slightly acid; abrupt smooth boundary.

EBg—12 to 18 inches; light gray (10YR 7/1) silt loam; weak medium subangular blocky structure; friable; few fine roots; common medium prominent strong brown (7.5YR 5/8) masses that have accumulated iron and are in the matrix; few fine prominent yellowish red (5YR 5/8) masses that have accumulated iron and that line tubular pores; few fine rounded very dark brown (10YR 2/2) hard iron and manganese oxide concretions throughout; strongly acid; gradual wavy boundary.

Btg—18 to 27 inches; light brownish gray (10YR 6/2) silt loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots between peds; common distinct grayish brown (10YR 5/2) clay films on vertical faces of peds; common fine prominent strong brown (7.5YR 5/8) and brownish yellow (10YR 6/6) masses that have accumulated iron and are in the matrix; few fine prominent strong brown (7.5YR 5/8) masses that have accumulated iron and that line tubular pores; few fine rounded very dark brown (10YR 2/2) hard iron and manganese oxide concretions throughout; many faint gray (10YR 6/1) clay depletions on faces of peds; very strongly acid; gradual wavy boundary.

Btg/Eg—27 to 38 inches; 60 percent light brownish gray (10YR 6/2) silt loam (Btg); moderate medium and coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine roots between peds; common distinct gray (10YR 6/1) clay films on vertical faces of peds; common fine prominent strong brown (7.5YR 5/8) and brownish yellow (10YR 6/6) masses that have accumulated iron and are in the matrix; few fine prominent yellowish red (5YR 5/8) masses that have accumulated iron and that line tubular pores; 40 percent light gray (10YR 7/2) silt loam (Eg); weak medium subangular blocky structure; friable; few fine roots throughout; few fine prominent yellowish red (5YR 5/8) masses that have accumulated iron and that line tubular pores; few fine rounded very dark brown (10YR 2/2) hard iron and manganese oxide concretions throughout; krotovina; very strongly acid; gradual wavy boundary.

2Eg/Btgx—38 to 50 inches; 60 percent light gray (10YR 7/2) silt loam (Eg); weak fine subangular blocky structure; friable; common fine roots throughout; common medium prominent yellowish brown (10YR 5/8) masses that have accumulated iron and are in the matrix; few medium rounded black (10YR 2/1) hard iron and manganese oxide concretions; 40 percent light brownish gray (10YR 6/2) silt loam (Btgx); moderate coarse prismatic structure parting to moderate medium angular blocky; firm; brittle; few fine roots between peds; common prominent gray (10YR 6/1) clay films on vertical faces of peds; common fine distinct yellowish brown (10YR 5/4) and prominent strong brown (7.5YR 5/6) masses that have accumulated iron and are in the matrix; few fine prominent yellowish red (5YR 4/6) masses that have accumulated iron and that line tubular pores; common prominent black (10YR 2/1) iron and manganese oxide stains lining pores; few fine rounded hard very dark brown (10YR 2/2) iron and manganese oxide concretions throughout; krotovina; 1 percent gravel; very strongly acid; gradual wavy boundary.

2Btx—50 to 85 inches; yellowish brown (10YR 5/4) silt loam; weak medium and coarse prismatic structure parting to weak medium subangular

blocky; firm; common faint gray (10YR 6/1) clay films on vertical faces of peds; few fine faint light yellowish brown (10YR 6/4) masses that have accumulated iron and are in the matrix; common medium rounded black (10YR 2/1) hard iron and manganese oxide concretions; many faint gray (10YR 6/1) clay depletions on vertical faces of peds; 2 percent gravel; 70 percent brittle; very strongly acid; diffuse wavy boundary.

3Btb—85 to 90 inches; strong brown (7.5YR 5/8) clay loam; weak coarse subangular blocky structure; firm; few prominent light brownish gray (2.5Y 6/2) clay films on faces of peds; common medium rounded very dark gray (10YR 3/1) hard iron and manganese oxide concretions; common fine and medium prominent gray (10YR 6/1) iron depletions in the matrix; 4 percent gravel; slightly acid.

Range in Characteristics

Thickness of the loess: 75 to 96 inches
Depth to the top of the glossic horizon: 24 to 36 inches
Depth to a layer that has fragic soil properties: 36 to 45 inches
Depth to the base of the argillic horizon: More than 80 inches

Ap horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 3
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon:
Hue—10YR
Value—4 or 5
Chroma—1 or 2
Texture—silt loam
Reaction—very strongly acid or strongly acid

EBg or BEg horizon:
Hue—10YR
Value—5 to 7
Chroma—1 or 2
Texture—silt loam
Reaction—very strongly acid or strongly acid

Btg horizon:
Hue—10YR
Value—6 or 7
Chroma—1 or 2
Texture—silt loam or silty clay loam
Reaction—extremely acid or very strongly acid

Btg part of Btg/Eg horizon:
Hue—10YR
Value—5 to 7
Chroma—1 or 2
Texture—silt loam or silty clay loam
Reaction—extremely acid or very strongly acid

Eg part of Btg/Eg horizon:
Hue—10YR or 2.5Y
Value—6 or 7
Chroma—1 or 2
Texture—silt loam
Reaction—extremely acid or very strongly acid

2Eg part of 2Eg/Btgx horizon:
Hue—10YR or 2.5Y
Value—6 or 7
Chroma—1 or 2
Texture—silt loam
Reaction—extremely acid or very strongly acid
Content of rock fragments—1 to 2 percent gravel

Btgx part of 2Eg/Btgx horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—1 or 2
Texture—silt loam or silty clay loam
Reaction—extremely acid or very strongly acid
Content of rock fragments—1 to 2 percent gravel

2Btx or 2Btgx horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—1 to 6
Texture—silt loam
Reaction—extremely acid to strongly acid
Content of rock fragments—1 to 2 percent gravel

3Btb or 3Btgb horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—1 to 8
Texture—clay loam
Reaction—commonly strongly acid or moderately acid in the upper part; ranges to neutral in the lower part
Content of rock fragments—2 to 10 percent gravel

Cohoctah Series

Taxonomic classification: Coarse-loamy, mixed, active, mesic Fluvaquentic Endoaquolls

Typical Pedon for the MLRA

Cohoctah loam, on a slope of less than 1 percent, in a forested area; 1,520 feet west and 1,720 feet north of the southeast corner of sec. 30, T. 20 N., R. 3 W., Montgomery County, Indiana; about 1 mile west and 2 miles north of Darlington; USGS Kirkpatrick, Indiana,

topographic quadrangle; lat. 40 degrees 08 minutes 49.2 seconds N. and long. 86 degrees 47 minutes 45.6 seconds W., NAD 27; UTM Zone 16, 517375 Easting and 4444096 Northing, NAD 83.

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

A1—9 to 16 inches; very dark gray (10YR 3/1) loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to moderate fine granular; friable; few fine roots; few fine pores; 2 percent rock fragments; neutral; clear smooth boundary.

A2—16 to 21 inches; very dark gray (10YR 3/1) fine sandy loam, dark gray (10YR 4/1) dry; weak medium subangular blocky structure; friable; few fine roots; common fine pores; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; many medium prominent olive brown (2.5Y 4/4) masses that have accumulated iron and are in the matrix; slightly alkaline; gradual wavy boundary.

Bg1—21 to 36 inches; dark gray (10YR 4/1) fine sandy loam; weak coarse subangular blocky structure; firm; few fine roots; common fine and medium pores; common fine prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; slightly effervescent; slightly alkaline; gradual smooth boundary.

Bg2—36 to 50 inches; gray (10YR 5/1) fine sandy loam; weak medium subangular blocky structure; friable; common medium distinct dark yellowish brown (10YR 4/4) masses that have accumulated iron and are in the matrix; slightly effervescent; slightly alkaline; gradual smooth boundary.

Cg—50 to 60 inches; gray (10YR 5/1) stratified loam and sandy loam; massive; friable; common fine prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; slightly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—loam
Reaction—slightly acid to slightly alkaline

Bg horizon:
Hue—10YR to 5Y or N
Value—2 to 6
Chroma—0 to 4
Texture—sandy loam, fine sandy loam, or loam
Reaction—slightly acid to moderately alkaline
Content of rock fragments—0 to 10 percent gravel

Cg horizon:
Hue—10YR to 5Y or N
Value—2 to 6
Chroma—0 to 2
Texture—stratified sandy loam, fine sandy loam, loam, loamy sand, or loamy fine sand
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 10 percent gravel

Coolville Series

Taxonomic classification: Fine, mixed, active, mesic Aquultic Hapludalfs

Typical Pedon for the MLRA

Coolville silt loam (fig. 29), on a slope of 8 percent, in a forested area; 1,900 feet west and 820 feet north of the southeast corner of sec. 15, T. 2 N., R. 6 E., Scott County, Indiana; about 3 miles south of Leota; USGS Henryville, Indiana, topographic quadrangle; lat. 38 degrees 36 minutes 24 seconds N. and long. 85 degrees 50 minutes 15 seconds W., NAD 27; UTM Zone 16, 601221 Easting and 4273776 Northing, NAD 83.

Oi—0 to 1 inch; partially decomposed leaves; abrupt wavy boundary.

A—1 to 2 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; weak fine granular structure; very friable; common very fine and fine and common medium and coarse roots; extremely acid; abrupt wavy boundary.

E—2 to 8 inches; yellowish brown (10YR 5/4) silt loam; weak very fine subangular blocky structure; friable; common very fine and fine and common medium and coarse roots; extremely acid; clear wavy boundary.

BE—8 to 12 inches; yellowish brown (10YR 5/6) silt loam; weak fine and medium subangular blocky structure; friable; common very fine and fine and common medium and coarse roots between peds; extremely acid; clear wavy boundary.

Bt1—12 to 21 inches; strong brown (7.5YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; few fine and common medium and coarse roots between peds; many distinct

strong brown (7.5YR 5/6) clay films on faces of peds; very strongly acid; clear wavy boundary.

2Bt2—21 to 30 inches; red (2.5YR 4/8) silty clay; many medium prominent pale yellow (2.5Y 7/4) mottles; moderate fine and medium angular blocky structure; firm; few fine, medium, and coarse roots between peds; many distinct red (2.5YR 4/8) and pale yellow (2.5Y 7/4) clay films on faces of peds; few fine prominent light gray (10YR 7/2) clay depletions in the matrix; very strongly acid; clear wavy boundary.

2Bt3—30 to 37 inches; light brownish gray (2.5Y 6/2) silty clay; moderate coarse prismatic structure parting to moderate coarse angular blocky; firm; few very fine and fine roots between peds; many distinct light brownish gray (2.5Y 6/2) clay films on faces of peds; many medium prominent red (2.5YR 4/8) masses that have accumulated iron and are in the matrix; very strongly acid; clear wavy boundary.

2BC—37 to 44 inches; brown (7.5YR 5/4) parachannery silty clay loam; weak thick platy structure parting to weak fine angular blocky; firm; few very fine roots between peds; many coarse prominent light olive gray (5Y 6/2) clay depletions in the matrix; 30 percent parachanners; very strongly acid; gradual wavy boundary.

2Cr—44 to 60 inches; light olive brown (2.5Y 5/4) fractured, moderately cemented siltstone bedrock; very firm; common fine and medium barite crystals between shale fragments; common medium prominent reddish brown (5YR 4/4) masses that have accumulated iron and are between shale fragments; very strongly acid.

Range in Characteristics

Depth to bedrock (paralithic contact): 40 to 60 inches

Depth to the base of the argillic horizon: 40 to 60 inches

Thickness of the loess or silty material: 14 to 26 inches

A horizon:
- Thickness—1 to 4 inches
- Hue—10YR
- Value—4 or 5
- Chroma—2 or 3
- Texture—silt loam
- Reaction—extremely acid to strongly acid

Ap horizon:
- Hue—10YR
- Value—4 or 5
- Chroma—3 to 6
- Texture—silt loam
- Reaction—extremely acid to neutral

E horizon:
- Hue—10YR
- Value—5 or 6
- Chroma—3 or 4
- Texture—silt loam
- Reaction—extremely acid to strongly acid

Bt horizon:
- Hue—7.5YR or 10YR
- Value—4 or 5
- Chroma—6 to 8
- Texture—silty clay loam
- Reaction—extremely acid to strongly acid
- Content of rock fragments—0 to 3 percent gravel (ironstone)

2Bt horizon:
- Hue—2.5YR to 10YR; 2.5Y in the lower part
- Value—4 to 6
- Chroma—4 to 8; 2 in the lower part
- Texture—silty clay or silty clay loam
- Reaction—extremely acid to strongly acid
- Content of rock fragments—0 to 10 percent gravel and cobbles (ironstone)
- Content of pararock fragments—0 to 14 percent parachanners

2BC or CB horizon:
- Hue—7.5YR to 2.5Y
- Value—5 or 6
- Chroma—4 to 8
- Texture—parachannery to extremely parachannery analogs of silty clay loam or silty clay
- Reaction—very strongly acid or strongly acid
- Content of rock fragments—0 to 10 percent gravel and cobbles (ironstone)
- Content of pararock fragments—15 to 70 percent parachanners

Crosby Series

Taxonomic classification: Fine, mixed, active, mesic Aeric Epiaqualfs

Typical Pedon for the Series

Crosby silt loam (fig. 30), on a slope of 1 percent, in a cultivated field; 1,000 feet north and 330 feet west of the southeast corner of sec. 27, T. 18 N., R. 9 E., Henry County, Indiana; about 2 miles north of Cadiz; USGS New Castle West, Indiana, topographic quadrangle; lat. 39 degrees 58 minutes 41.8 seconds

N. and long. 85 degrees 28 minutes 56.4 seconds W., NAD 27; UTM Zone 16, 629593 Easting and 4426455 Northing, NAD 83.

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light gray (10YR 7/2) dry; moderate medium granular structure; friable; many fine roots; strongly acid; abrupt smooth boundary.

BE—8 to 11 inches; grayish brown (10YR 5/2) silt loam; moderate thin platy structure; friable; common fine roots; few fine distinct yellowish brown (10YR 5/4) masses that have accumulated iron and are in the matrix; moderately acid; clear wavy boundary.

Bt1—11 to 14 inches; brown (10YR 5/3) silt loam; moderate medium subangular blocky structure; firm; few fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many medium distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; many medium distinct gray (10YR 6/1) iron depletions in the matrix; strongly acid; clear smooth boundary.

2Bt2—14 to 22 inches; brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many medium distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; many medium distinct gray (10YR 6/1) iron depletions in the matrix; 2 percent rock fragments; strongly acid; clear smooth boundary.

2Bt3—22 to 28 inches; yellowish brown (10YR 5/4) clay loam; weak medium subangular blocky structure; firm; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds and as linings in pores; many medium distinct yellowish brown (10YR 5/6) and prominent strong brown (7.5YR 5/8) masses that have accumulated iron and are in the matrix; 3 percent rock fragments; neutral; clear smooth boundary.

2BCt—28 to 36 inches; brown (10YR 5/3) loam; weak coarse subangular blocky structure; firm; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds and as linings in pores; common fine distinct yellowish brown (10YR 5/6) and few fine faint yellowish brown (10YR 5/4) masses that have accumulated iron and are in the matrix; 7 percent rock fragments; slightly effervescent; slightly alkaline; clear smooth boundary.

2Cd—36 to 80 inches; brown (10YR 5/3) loam; massive; very firm; common fine distinct yellowish brown (10YR 5/6) and few fine faint yellowish brown (10YR 5/4) masses that have accumulated iron and are in the matrix; 7 percent rock fragments; strongly effervescent; slightly alkaline.

Range in Characteristics

Depth to base of the argillic horizon: 20 to 40 inches
Thickness of the loess: Less than 22 inches
Depth to carbonates: 20 to 40 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5 (Ap); 3 (A)
Chroma—2 or 3
Texture—silt loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 5 percent

BE or E horizon (where present):
Hue—10YR
Value—4 to 6
Chroma—2
Texture—silt loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 5 percent

Bt, Btg, 2Bt, or 2Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam or silt loam in the upper part; silty clay, clay, or clay loam in the lower part
Reaction—strongly acid to neutral
Content of rock fragments—0 to 10 percent

BCt, CB, 2BCt, or 2CB horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—clay loam, loam, or fine sandy loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—1 to 13 percent

Cd or 2Cd horizon:
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—loam or fine sandy loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—1 to 13 percent

Cyclone Series

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

Typical Pedon for the County

Cyclone silty clay loam (fig. 31), on a planar slope of less than 1 percent, in a cultivated field; 1,800 feet west and 1,900 feet south of the northeast corner of sec. 1, T. 9 N., R. 6 E., Bartholomew County, Indiana; about 3 miles south and 1.75 miles west of Hope; USGS Hope, Indiana, topographic quadrangle; lat. 39 degrees 15 minutes 19.2 seconds N. and long. 85 degrees 48 minutes 20.8 seconds W., NAD 27; UTM Zone 16, 603038 Easting and 4345797 Northing, NAD 83.

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; neutral; abrupt smooth boundary.

A—8 to 17 inches; very dark gray (10YR 3/1) silty clay loam; moderate fine and medium subangular blocky structure; firm; common fine prominent yellowish red (5YR 5/6) masses that have accumulated iron and are in the matrix; neutral; clear wavy boundary.

Btg1—17 to 20 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium subangular blocky structure; firm; common fine roots; common fine pores; common distinct very dark gray (10YR 3/1) clay films on faces of peds; common fine and medium distinct olive brown (2.5Y 4/4) masses that have accumulated iron and are in the matrix; neutral; gradual wavy boundary.

Btg2—20 to 24 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium and coarse subangular blocky structure; firm; few fine roots; common fine pores; few distinct dark gray (10YR 4/1) clay films on faces of peds; many medium distinct dark yellowish brown (10YR 4/4) masses that have accumulated iron and are in the matrix; few black (10YR 2/1) iron and manganese oxide concretions in the matrix; neutral; gradual wavy boundary.

Btg3—24 to 36 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common fine pores; few distinct dark gray (10YR 4/1) clay films on faces of peds; many medium prominent dark yellowish brown (10YR 4/6) masses that have accumulated iron and are in the matrix; few black (10YR 2/1) iron and manganese oxide concretions in the matrix; many medium faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; gradual wavy boundary.

Bt1—36 to 52 inches; light olive brown (2.5Y 5/3) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common fine pores; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many medium prominent dark yellowish brown (10YR 4/6) masses that have accumulated iron and are in the matrix; few black (10YR 2/1) iron and manganese oxide concretions in the matrix; many medium faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; gradual wavy boundary.

2Bt2—52 to 58 inches; light olive brown (2.5Y 5/3) silty clay loam; moderate medium subangular blocky structure; firm; few distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; many medium prominent dark yellowish brown (10YR 4/6) masses that have accumulated iron and are in the matrix; many medium faint grayish brown (10YR 5/2) iron depletions in the matrix; 2 percent rock fragments; neutral; clear wavy boundary.

2BC—58 to 65 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; firm; few medium distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; 5 percent rock fragments; slightly effervescent; moderately alkaline; clear wavy boundary.

2C—65 to 80 inches; yellowish brown (10YR 5/4) loam; massive; firm; 2 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches

Thickness of the loess or silty material: 40 to 60 inches

Depth to the base of the argillic horizon: 50 to 75 inches

Ap or A horizon:
- Hue—10YR
- Value—2 or 3
- Chroma—1 or 2
- Texture—silty clay loam
- Reaction—slightly acid or neutral

Bt or Btg horizon (upper part):
- Hue—10YR or 2.5Y
- Value—3 to 5
- Chroma—1 to 3
- Texture—silt loam or silty clay loam
- Reaction—slightly acid or neutral

Bt or Btg horizon (lower part):
- Hue—10YR or 2.5Y
- Value—4 or 5
- Chroma—1 to 4

Texture—silt loam or silty clay loam
Reaction—slightly acid or neutral

2Bt or 2Btg horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—2 to 4
Texture—loam, clay loam, or silty clay loam
Reaction—neutral or slightly alkaline
Content of rock fragments—1 to 10 percent

2BC or 2BCg horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—loam
Reaction—neutral or slightly alkaline
Content of rock fragments—1 to 10 percent

2C or 2Cg horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—loam or fine sandy loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—1 to 10 percent

Deam Series

Taxonomic classification: Fine, illitic, mesic Ultic Hapludalfs

Typical Pedon for the County

Deam silt loam, very deep, on a slope of 18 percent, in a forested area; 1,799 feet east and 665 feet north of the southwest corner of sec. 2, T. 9 N., R. 4 E., Bartholomew County, Indiana; USGS New Bellsville, Indiana, topographic quadrangle; lat. 39 degrees 14 minutes 34 seconds N. and long. 86 degrees 03 minutes 25 seconds W., NAD 27; UTM Zone 16, 581381 Easting and 4344150 Northing, NAD 83.

Oi—0 to 1 inch; mixed hardwood leaf litter and moss mat.

A—1 to 5 inches; yellowish brown (10YR 5/4) silt loam, very pale brown (10YR 7/4) dry; weak fine and medium granular structure; friable; many very fine and fine and common medium and coarse roots; 2 percent gravel; extremely acid; clear smooth boundary.

EB—5 to 11 inches; yellowish brown (10YR 5/6) silt loam, very pale brown (10YR 7/4) dry; moderate fine and medium granular structure; friable; many very fine and fine and common medium and coarse roots; 2 percent gravel; very strongly acid; clear smooth boundary.

Bt1—11 to 20 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine and common medium and coarse roots between peds; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; many distinct very pale brown (10YR 8/2) (dry) silt coatings on faces of peds; few distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; 5 percent gravel; extremely acid; clear wavy boundary.

2Bt2—20 to 28 inches; light olive brown (2.5Y 5/4) silty clay; moderate fine and medium subangular blocky structure; firm; few very fine to medium and very few coarse roots between peds; common distinct light olive brown (2.5Y 5/3) and few prominent light olive gray (5Y 6/2) clay films on faces of peds; common prominent light gray (10YR 7/2) (dry) silt coatings on faces of peds; common distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; 10 percent gravel; extremely acid; clear wavy boundary.

2Bt3—28 to 56 inches; light olive brown (2.5Y 5/4) silty clay; moderate medium subangular blocky structure; firm; few very fine to medium and very few coarse roots between peds; many prominent olive gray (5Y 5/2) and few prominent olive (5Y 5/3) clay films on faces of peds; common distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; 5 percent gravel; very strongly acid; clear wavy boundary.

2Bt4—56 to 90 inches; light olive brown (2.5Y 5/4) silty clay; strong medium subangular blocky structure; firm; few very fine and fine and very few medium roots between peds; many prominent olive gray (5Y 5/2) and few distinct light olive brown (2.5Y 5/3) clay films on faces of peds; common distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; 5 percent gravel and 10 percent parachanners; very strongly acid.

Range in Characteristics

Depth to bedrock (paralithic contact): 60 to more than 80 inches
Thickness of the silty material: Less than 22 inches

A horizon:
Hue—10YR or 2.5Y
Value—3 to 6
Chroma—2 to 4
Texture—silt loam
Reaction—extremely acid to strongly acid
Content of rock fragments—0 to 5 percent gravel and cobbles

Bt horizon:
Hue—10YR
Value—5 or 6
Chroma—4 to 6
Texture—silty clay loam or silt loam
Reaction—extremely acid to strongly acid
Content of rock fragments—0 to 5 percent gravel and cobbles

2Bt horizon:
Hue—2.5Y or 5Y
Value—5 or 6
Chroma—3 or 4
Texture—silty clay loam or silty clay
Reaction—extremely acid or very strongly acid
Content of pararock fragments—0 to 14 percent parachanners
Content of rock fragments—0 to 10 percent gravel and cobbles

BC or CB horizon (where present):
Hue—2.5Y or 5Y
Value—4 or 5
Chroma—3 or 4
Texture—parachannery to extremely parachannery analogs of silty clay or silty clay loam
Reaction—very strongly acid or strongly acid
Content of pararock fragments—30 to 80 percent parachanners
Content of rock fragments—0 to 10 percent gravel and cobbles

Cr horizon (where present):
Hue—5Y
Value—4 or 5
Chroma—3 or 4
Reaction—very strongly acid to slightly acid

Eel Series

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Fluvaquentic Eutrudepts

Typical Pedon for the County

Eel loam, in a nearly level area in a cultivated field; 1,370 feet west and 2,500 feet north of the southeast corner of sec. 3, T. 8 N., R. 6 E., Bartholomew County, Indiana; about 2.5 miles northwest of Elizabethtown; USGS Elizabethtown, Indiana, topographic quadrangle; lat. 03 degrees 56 minutes 32.1 seconds N. and long. 86 degrees 05 minutes 57.2 seconds W., NAD 27; UTM zone 16, 600005 Easting and 435771 Northing, NAD 83.

Ap—0 to 8 inches; brown (10YR 5/3) loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; few fine roots; few fine pores; neutral; abrupt smooth boundary.

Bw1—8 to 16 inches; yellowish brown (10YR 5/4) loam; moderate medium granular structure; friable; few fine roots; many fine pores; few distinct brown (10YR 4/3) organic coatings on faces of peds; neutral; clear smooth boundary.

Bw2—16 to 19 inches; yellowish brown (10YR 5/4) loam; moderate medium subangular blocky structure; friable; few fine roots; many fine pores; few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bg—19 to 34 inches; grayish brown (10YR 5/2) loam; weak coarse subangular blocky structure; friable; few fine and medium pores; thin strata of sand and silt; many medium distinct dark yellowish brown (10YR 4/4) and faint brown (10YR 5/3) masses that have accumulated iron and are in the matrix; neutral; clear smooth boundary.

Cg—34 to 60 inches; dark grayish brown (10YR 4/2) loam; massive; friable; many medium prominent yellowish brown (10YR 5/8) and distinct yellowish brown (10YR 5/4) masses that have accumulated iron and are in the matrix; few black (10YR 2/1) iron and manganese oxide masses in the matrix; slightly effervescent; slightly alkaline; clear wavy boundary.

C—60 to 80 inches; pale brown (10YR 6/3) stratified loamy fine sand and fine sand; single grain; loose; slightly effervescent; slightly alkaline.

Range in Characteristics

Depth to the base of the cambic horizon: 20 to 40 inches
Depth to carbonates: 20 to 40 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam or loam
Reaction—slightly acid or neutral; slightly alkaline in areas that have been limed

Bw or Bg horizon:
Hue—10YR
Value—4 or 5
Chroma—1 to 6
Texture—silt loam, loam, or clay loam
Reaction—slightly acid to slightly alkaline

BC or BCg horizon (where present):
Hue—10YR
Value—4 to 6

Chroma—1 to 6
Texture—silt loam, loam, fine sandy loam, or sandy loam; thin strata of silty clay loam or clay loam in some pedons
Reaction—neutral or slightly alkaline
Content of rock fragments—0 to 7 percent

C or Cg horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—1 to 4
Texture—loam, fine sandy loam, or sandy loam; strata of silt loam, silty clay loam, clay loam, loamy sand, sand, loamy fine sand, or fine sand in some pedons
Reaction—commonly slightly alkaline or moderately alkaline; neutral in some strata
Content of rock fragments—0 to 14 percent

Elkinsville Series

Taxonomic classification: Fine-silty, mixed, active, mesic Ultic Hapludalfs

Typical Pedon for the Series

Elkinsville silt loam, on a slope of 3 percent, in a cultivated field; 1,690 feet south and 1,370 feet east of the northwest corner of sec. 3, T. 6 N., R. 12 E., Ripley County, Indiana; about 2 miles east of Olean; USGS Cross Plains, Indiana, topographic quadrangle; lat. 38 degrees 59 minutes 46 seconds N. and long. 85 degrees 10 minutes 48 seconds W., NAD 27; UTM Zone 16, 657615 Easting and 4317926 Northing, NAD 83.

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak very fine granular structure; friable; common fine roots; slightly acid; abrupt smooth boundary.
Bt1—9 to 15 inches; yellowish brown (10YR 5/6) silt loam; moderate fine subangular blocky structure; friable; few fine roots; few faint yellowish brown (10YR 5/4) clay films on faces of peds; few distinct brown (10YR 4/3) organic coatings on faces of peds; slightly acid; gradual smooth boundary.
Bt2—15 to 24 inches; yellowish brown (l0YR 5/6) silt loam; moderate fine subangular blocky structure; firm; many distinct yellowish brown (10YR 5/4) clay films on faces of peds; very strongly acid; gradual smooth boundary.
2Bt3—24 to 38 inches; strong brown (7.5YR 5/6) clay loam; moderate medium subangular blocky structure; firm; few fine roots; many distinct brown (7.5YR 5/4) clay films on faces of peds; 1 percent gravel; very strongly acid; gradual smooth boundary.
2Bt4—38 to 50 inches; strong brown (7.5YR 5/6) clay loam; weak medium subangular blocky structure; firm; few fine roots; many distinct yellowish brown (10YR 5/4) clay films on faces of peds; very strongly acid; 1 percent gravel; gradual smooth boundary.
2Bt5—50 to 58 inches; strong brown (7.5YR 5/6) sandy clay loam; few fine prominent pale brown (10YR 6/3) mottles; weak fine subangular blocky structure; friable; few distinct yellowish brown (10YR 5/4) clay bridges between sand grains; common irregular fine and medium masses that have accumulated iron and are in the matrix; very strongly acid; gradual smooth boundary.
2CB—58 to 68 inches; yellowish brown (10YR 5/6) clay loam; common fine distinct pale brown (10YR 6/3) mottles; massive; friable; common irregular fine and medium masses that have accumulated iron and are in the matrix; 1 percent gravel; strongly acid; clear smooth boundary.
2C—68 to 80 inches; dark yellowish brown (l0YR 4/4) loam; massive; friable; 4 percent gravel; moderately acid.

Range in Characteristics

Thickness of the loess: Less than 40 inches
Depth to the base of the argillic horizon: 42 to 72 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—silt loam or silty clay loam
Reaction—commonly very strongly acid or strongly acid; less commonly ranges to neutral in the upper part

2Bt horizon:
Hue—7.5YR or 10YR

Value—4 or 5
Chroma—4 to 8
Texture—loam, clay loam, or sandy clay loam
Reaction—very strongly acid or strongly acid
Content of rock fragments—0 to 5 percent gravel

2BC or 2CB horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 8
Texture—loam, sandy loam, fine sandy loam, clay loam, or sandy clay loam
Reaction—very strongly acid or strongly acid
Content of rock fragments—0 to 5 percent gravel

2C horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—loam, sandy loam, or fine sandy loam; thin strata of clay loam or sandy clay loam in some pedons
Reaction—very strongly acid to moderately acid
Content of rock fragments—0 to 14 percent gravel

Fincastle Series

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

Typical Pedon for the Series

Fincastle silt loam (fig. 32), on a slope of 1 percent, in a cultivated field; 1,750 feet east and 30 feet south of the northwest corner of sec. 23, T. 12 N., R. 10 E., Rush County, Indiana; about 4 miles east and 1 mile south of Milroy; USGS Milroy, Indiana, topographic quadrangle; lat. 39 degrees 28 minutes 55.7 seconds N. and long. 85 degrees 22 minutes 46 seconds W., NAD 27; UTM Zone 16, 639379 Easting and 4371560 Northing, NAD 83.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; many fine and very fine roots; neutral; abrupt smooth boundary.

E—10 to 13 inches; grayish brown (10YR 5/2) silt loam; weak fine subangular blocky structure; friable; common fine and very fine roots; many medium prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; moderately acid; clear smooth boundary.

Bt1—13 to 21 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine and common very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; moderately acid; clear wavy boundary.

Bt2—21 to 27 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few medium prominent yellowish brown (10YR 5/8) masses that have accumulated iron and are in the matrix; few very dark brown (7.5YR 2.5/2) very weakly cemented iron and manganese oxide nodules throughout; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; slightly acid; clear wavy boundary.

2Bt3—27 to 34 inches; yellowish brown (10YR 5/4) clay loam; moderate coarse subangular blocky structure; firm; few fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/8) masses that have accumulated iron and are in the matrix; few very dark brown (7.5YR 2.5/2) very weakly cemented iron and manganese oxide nodules throughout; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 3 percent rock fragments; neutral; clear wavy boundary.

2Bt4—34 to 50 inches; brown (10YR 5/3) clay loam; weak fine subangular blocky structure; firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few medium distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few very dark brown (7.5YR 2.5/2) very weakly cemented iron and manganese oxide nodules throughout; common medium faint light brownish gray (10YR 6/2) iron depletions in the matrix; 2 percent rock fragments; slightly alkaline; abrupt wavy boundary.

2BCt—50 to 59 inches; yellowish brown (10YR 5/4) loam; weak medium and coarse subangular blocky structure; very firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few medium distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few very dark brown (7.5YR 2.5/2) very weakly cemented iron and manganese oxide nodules throughout; many medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 6 percent rock fragments; strongly effervescent; moderately alkaline; clear wavy boundary.

2Cd—59 to 80 inches; yellowish brown (10YR 5/4) loam; massive; very firm; 9 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to 60 inches
Thickness of the loess: 22 to 40 inches
Depth to carbonates: 35 to 60 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam
Reaction—strongly acid to neutral

E horizon:
Hue—10YR
Value—5 or 6
Chroma—2
Texture—silt loam
Reaction—strongly acid to neutral

Bt horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—silty clay loam or silt loam
Reaction—strongly acid to slightly acid

2Bt horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—clay loam, silty clay loam, or loam
Reaction—strongly acid to slightly alkaline
Content of rock fragments—1 to 7 percent

2BCt horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—clay loam or loam
Reaction—neutral to moderately alkaline
Content of rock fragments—1 to 8 percent

2Cd horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—loam or fine sandy loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—2 to 14 percent

Fox Series

Taxonomic classification: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Hapludalfs

Typical Pedon for the County

Fox loam, on a planar slope of 1 percent, in a cultivated field; 1,425 feet west and 1,325 feet south of the northeast corner of sec. 35, T. 10 N., R. 5 E., Bartholomew County, Indiana; about 1 mile west and 2.5 miles north of Columbus; USGS Edinburgh, Indiana, topographic quadrangle; lat. 39 degrees 16 minutes 18.5 seconds N. and long. 85 degrees 56 minutes 18.7 seconds W., NAD 27; UTM zone 16, 591563 Easting and 4347482 Northing, NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; 3 percent rock fragments; neutral; abrupt smooth boundary.
Bt1—8 to 12 inches; brown (7.5YR 4/4) loam; weak medium subangular blocky structure; friable; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; 5 percent rock fragments; slightly acid; clear smooth boundary.
Bt2—12 to 22 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; firm; many distinct brown (7.5YR 4/4) clay films on faces of peds; 8 percent rock fragments; moderately acid; clear smooth boundary.
Bt3—22 to 30 inches; brown (7.5YR 4/4) gravelly clay loam; moderate coarse subangular blocky structure; firm; common distinct reddish brown (5YR 4/4) clay films on faces of peds; 15 percent rock fragments; moderately acid; clear wavy boundary.
Bt4—30 to 33 inches; dark brown (7.5YR 3/2) gravelly clay loam; weak coarse subangular blocky structure; firm; dark brown (7.5YR 3/2) clay bridges between sand grains; 20 percent rock fragments; neutral; abrupt irregular boundary.
2C—33 to 60 inches; yellowish brown (10YR 5/4) stratified very gravelly coarse sand; single grain; loose; 40 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 20 to 40 inches
Depth to carbonates: 20 to 40 inches
Content of rock fragments: 0 to 35 percent in the

loamy mantle; 0 to 95 percent in the sandy substratum; averages 3 to 70 percent

Ap horizon:
Hue—7.5YR or 10YR
Value—3 or 4
Chroma—2 or 3
Texture—loam or sandy loam
Reaction—strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—loam or sandy loam
Reaction—strongly acid to slightly acid

E horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—lsandy loam, gravelly loam, or gravelly sandy loam
Reaction—strongly acid to slightly acid

Bt horizon:
Hue—5YR to 10YR
Value—3 or 4
Chroma—3 or 4
Texture—loam, clay loam, or sandy clay loam or the gravelly analogs of these textures; grades to sandy loam in the lower part in some pedons
Reaction—strongly acid to neutral in the upper part; moderately acid to slightly alkaline in the lower part

2C horizon:
Hue—7.5YR or 10YR
Value—4 to 7
Chroma—3 or 4
Texture—stratified sand or coarse sand or the gravelly to extremely gravelly analogs of these textures; or strata of gravel
Reaction—slightly alkaline or moderately alkaline

Genesee Series

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Fluventic Eutrudepts

Typical Pedon for the County

Genesee loam, on a slope of 1 percent, in a cultivated field; 536 feet east and 2,617 feet south of the northwest corner of sec. 25, T. 9 N., R. 5 E., Bartholomew County, Indiana; about 1 mile west of Columbus; USGS Columbus, Indiana, topographic quadrangle; lat. 39 degrees 11 minutes 37.5 seconds N. and long. 85 degrees 55 minutes 32.9 seconds W., NAD 27; UTM Zone 16, 592763 Easting and 4338833 Northing, NAD 83.

Ap—0 to 10 inches; brown (10YR 4/3) loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; neutral; abrupt smooth boundary.

Bw1—10 to 26 inches; brown (10YR 4/3) loam; moderate medium subangular blocky structure parting to weak medium granular; friable; slightly alkaline; clear smooth boundary.

Bw2—26 to 32 inches; dark yellowish brown (10YR 4/4) loam; moderate medium subangular blocky structure parting to weak medium granular; friable; slightly alkaline; gradual smooth boundary.

C1—32 to 56 inches; dark yellowish brown (10YR 4/4) sandy loam; weak medium subangular blocky structure parting to weak fine granular; very friable; slightly effervescent; moderately alkaline; clear smooth boundary.

C2—56 to 60 inches; light yellowish brown (10YR 6/4) stratified sand, loamy sand, and silt loam; massive; friable; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the cambic horizon: 20 to 40 inches

Depth to carbonates: 20 to 40 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—loam or silt loam
Reaction—slightly acid or neutral

Bw horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture—silt loam or loam; thin layers of silty clay loam, clay loam, or sandy loam in some pedons
Reaction—slightly acid to slightly alkaline

C horizon:
Hue—10YR
Value—3 to 6
Texture—loam, silt loam, or sandy loam with strata of loamy very fine sand, loamy sand, or sand; thin layers of silty clay loam or clay loam in some pedons
Reaction—slightly alkaline or moderately alkaline; neutral in the upper part in some pedons

Gilwood Series

Taxonomic classification: Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon for the Series

Gilwood silt loam, on a convex slope of 22 percent, in a forested area; 600 feet south and 130 feet east of the center of sec. 26, T. 7 N., R. 2 E., Jackson County, Indiana; about 2.5 miles southwest of Maumee; USGS Elkinsville, Indiana, topographic quadrangle; lat. 39 degrees 00 minutes 37 seconds N. and long. 86 degrees 18 minutes 28 seconds W., NAD 27; UTM Zone 16, 559932 Easting and 4318151 Northing, NAD 83.

Oi—0 to 1 inch; partially decomposed leaves from mixed deciduous trees.

A—1 to 6 inches; brown (10YR 4/3) silt loam, light yellowish brown (10YR 6/4) dry; weak medium granular structure; friable; many fine and medium roots; 10 percent channers; slightly acid; clear wavy boundary.

BE—6 to 11 inches; yellowish brown (10YR 5/4) channery silt loam; weak fine subangular blocky structure; friable; many medium roots; 15 percent channers; strongly acid; clear wavy boundary.

Bt—11 to 22 inches; yellowish brown (10YR 5/6) channery silt loam; moderate fine and medium subangular blocky structure; friable; common fine and medium roots; many distinct strong brown (7.5YR 5/6) clay films on faces of peds; 20 percent channers; very strongly acid; gradual wavy boundary.

CB—22 to 32 inches; light yellowish brown (2.5Y 6/4) extremely channery silt loam; weak fine subangular blocky structure; friable; 65 percent channers; very strongly acid; clear wavy boundary.

R—32 to 60 inches; fractured, very strongly cemented siltstone bedrock.

Range in Characteristics

Depth to the base of the argillic horizon: 15 to 32 inches

Depth to bedrock (lithic contact): 20 to 40 inches

A horizon or A part of E/A horizon:
- Hue—10YR
- Value—4 or 5
- Chroma—2 or 3
- Texture—silt loam or channery silt loam
- Reaction—very strongly acid to slightly acid
- Content of rock fragments—0 to 30 percent channers

E part of E/A horizon:
- Hue—10YR
- Value—6
- Chroma—4 to 6
- Texture—silt loam or channery silt loam
- Reaction—very strongly acid to slightly acid
- Content of rock fragments—0 to 30 percent channers

BE horizon:
- Hue—10YR
- Value—5 or 6
- Chroma—4 to 6
- Texture—silt loam or channery silt loam
- Reaction—very strongly acid or strongly acid
- Content of rock fragments—5 to 15 percent channers

Bt horizon:
- Hue—7.5YR or 10YR
- Value—5 or 6
- Chroma—4 to 6
- Texture—channery silt loam
- Reaction—extremely acid or very strongly acid
- Content of rock fragments—15 to 30 percent channers

CB or BC horizon:
- Hue—10YR or 2.5Y
- Value—5 or 6
- Chroma—4 to 6
- Texture—very channery or extremely channery silt loam
- Reaction—extremely acid or very strongly acid
- Content of rock fragments—35 to 65 percent channers

Gnawbone Series

Taxonomic classification: Fine-silty, mixed, semiactive, mesic Typic Hapludults

Typical Pedon for the Series

Gnawbone silt loam, on a convex, west-facing slope of 22 percent, in a forested area; 600 feet south and 450 feet west of the northeast corner of sec. 28, T. 2 N., R. 6 E., Scott County, Indiana; about 0.5 mile northeast of New Liberty; USGS Henryville, Indiana, topographic quadrangle; lat. 38 degrees 35 minutes 13 seconds N. and long. 85 degrees 51 minutes 01 second W., NAD 27; UTM Zone 16, 600136 Easting and 4271573 Northing, NAD 83.

Oi—0 to 1 inch; partially decomposed leaves from mixed deciduous trees.

A—1 to 7 inches; light yellowish brown (10YR 6/4) silt loam, very pale brown (10YR 7/4) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; many very fine to medium and few coarse roots; 3 percent gravel (ironstone); extremely acid; clear wavy boundary.

Bt1—7 to 12 inches; yellowish brown (10YR 5/6) silt loam; weak medium subangular blocky structure; friable; many medium common fine and very fine and few coarse roots between peds; few distinct strong brown (7.5YR 5/6) clay films on faces of peds; 3 percent gravel (ironstone); 10 percent parachanners; extremely acid; clear wavy boundary.

Bt2—12 to 17 inches; dark yellowish brown (10YR 4/6) parachannery silty clay loam; moderate medium subangular blocky structure; friable; common very fine to medium and few coarse roots between peds; common distinct strong brown (7.5YR 5/6) clay films on faces of peds; 10 percent gravel (ironstone); 15 percent parachanners; very strongly acid; clear wavy boundary.

Bt3—17 to 27 inches; dark yellowish brown (10YR 4/6) parachannery silty clay loam; moderate medium subangular blocky structure; friable; common fine and medium and few coarse roots between peds; many distinct strong brown (7.5YR 5/6) clay films on faces of peds; 3 percent gravel (ironstone); 20 percent parachanners; very strongly acid; clear wavy boundary.

Bt4—27 to 35 inches; yellowish brown (10YR 5/4) very parachannery silt loam; moderate fine subangular blocky structure; friable; common fine and medium roots between peds; few distinct strong brown (7.5YR 5/6) clay films on faces of peds; 3 percent gravel (ironstone); 35 percent parachanners; very strongly acid; gradual wavy boundary.

CB—35 to 39 inches; yellowish brown (10YR 5/4) extremely parachannery silt loam; weak fine subangular blocky structure; friable; 3 percent gravel (ironstone); 60 percent parachanners; very strongly acid; gradual wavy boundary.

Cr—39 to 60 inches; light olive brown (2.5Y 5/4) fractured, moderately cemented siltstone bedrock.

Range in Characteristics

Depth to the base of the argillic horizon: 18 to 36 inches

Depth to bedrock (paralithic contact): 20 to 40 inches

A or E/A horizon:
- Hue—10YR
- Value—3 to 6
- Chroma—2 to 4
- Texture—silt loam
- Reaction—extremely acid or very strongly acid
- Content of rock fragments—1 to 5 percent gravel

Bt or BE horizon:
- Hue—7.5YR or 10YR
- Value—4 to 6
- Chroma—4 to 6
- Texture—silt loam or silty clay loam or the parachannery and very parachannery analogs of these textures
- Reaction—extremely acid or very strongly acid
- Content of pararock fragments—0 to 35 percent parachanners
- Content of rock fragments—1 to 12 percent gravel and cobbles

CB or BC horizon:
- Hue—7.5YR to 2.5Y
- Value—5 or 6
- Chroma—4 to 8
- Texture—parachannery to extremely parachannery analogs of silt loam or silty clay loam
- Reaction—extremely acid or very strongly acid
- Content of pararock fragments—30 to 70 percent parachanners
- Content of rock fragments—1 to 12 percent gravel and cobbles

Cr horizon:
- Hue—10YR or 2.5Y
- Value—4 to 6
- Chroma—3 to 6

Haymond Series

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

Typical Pedon for the Series

Haymond silt loam, in a nearly level area in a cultivated field; 1,800 feet east and 300 feet north of the southwest corner of sec. 2, T. 1 S., R. 11 W., Knox County, Indiana; about 3.5 miles northwest of Patoka; USGS Patoka, Indiana, topographic quadrangle; lat. 38 degrees 27 minutes 04 seconds N. and long. 87 degrees 36 minutes 19 seconds W., NAD 27; UTM Zone 16, 447182 Easting and 4256048 Northing, NAD 83.

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

Bw1—10 to 25 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium subangular

blocky structure; friable; common fine roots; common distinct brown (10YR 4/3) organic coatings on faces of peds; slightly acid; clear smooth boundary.

Bw2—25 to 44 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; few distinct dark yellowish brown (10YR 4/4) organic coatings on faces of peds; neutral; clear smooth boundary.

C—44 to 60 inches; yellowish brown (10YR 5/4) fine sandy loam; massive with weak bedding planes; friable; slightly alkaline.

Range in Characteristics

Depth to the base of the cambic horizon: 30 to 50 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—moderately acid to neutral

Bw horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—moderately acid to neutral

C horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam, loam, fine sandy loam, or sandy loam or stratified with these textures
Reaction—slightly acid to slightly alkaline
Content of rock fragments—0 to 5 percent gravel

Hickory Series

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

Typical Pedon for the MLRA

Hickory loam, on a slope of 35 percent, in a forested area; 1,305 feet west and 845 feet north of the center of sec. 22, T. 4 N., R. 7 E., Scott County, Indiana; about 3 miles northwest of Albion; USGS Deputy, Indiana, topographic quadrangle; lat. 38 degrees 46 minutes 29 seconds N. and long. 85 degrees 44 minutes 05 seconds W., NAD 27; UTM Zone 16, 609913 Easting and 4292544 Northing, NAD 83.

A—0 to 4 inches; 80 percent very dark brown (10YR 2/2) and 20 percent yellowish brown (10YR 5/4) loam, dark grayish brown (10YR 4/2) and very pale brown (10YR 7/4) dry; moderate medium granular structure; very friable; many fine roots; 2 percent gravel; very strongly acid; abrupt smooth boundary.

E—4 to 11 inches; yellowish brown (10YR 5/4) loam; weak fine subangular blocky structure parting to moderate medium granular; friable; common fine and medium roots; few fine rounded iron and manganese oxide concretions; 2 percent gravel; very strongly acid; clear smooth boundary.

Bt1—11 to 20 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; friable; common fine and medium roots between peds; common faint yellowish brown (10YR 5/6) clay films on faces of peds; common distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; common medium rounded iron and manganese oxide concretions; 3 percent gravel; strongly acid; clear wavy boundary.

Bt2—20 to 29 inches; yellowish brown (10YR 5/6) clay loam; moderate medium and coarse subangular blocky structure; firm; few fine and medium roots between peds; many distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; common distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; common medium irregular iron and manganese oxide concretions; 2 percent gravel; very strongly acid; clear wavy boundary.

Bt3—29 to 39 inches; yellowish brown (10YR 5/6) loam; moderate coarse subangular blocky structure; firm; few fine and medium roots between peds; many distinct brown (7.5YR 4/4) clay films on faces of peds; few distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; few medium irregular masses of iron and manganese oxides; 3 percent gravel; very strongly acid; gradual wavy boundary.

BCt—39 to 45 inches; yellowish brown (10YR 5/6) loam; weak coarse subangular blocky structure; firm; few fine roots between peds; common distinct brown (7.5YR 4/4) clay films on faces of peds; 6 percent gravel; slightly alkaline; gradual wavy boundary.

CB—45 to 51 inches; yellowish brown (10YR 5/6) loam; massive; firm; very few distinct brown (7.5YR 4/4) clay films in root channels; 6 percent gravel; strongly effervescent; moderately alkaline; gradual wavy boundary.

C—51 to 60 inches; light yellowish brown (10YR 6/4) loam; massive; firm; 6 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to 80 inches
Thickness of the loess: Less than 20 inches
Depth to carbonates: More than 40 inches

A horizon:
Thickness—1 to 4 inches
Hue—10YR
Value—2 to 4
Chroma—2 or 3
Texture—silt loam or loam
Reaction—very strongly acid to moderately acid
Content of rock fragments—0 to 5 percent gravel

Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam, loam, or clay loam
Reaction—very strongly acid to neutral
Content of rock fragments—0 to 5 percent gravel

E horizon (where present):
Hue—10YR
Value—5 or 6
Chroma—3 or 4
Texture—silt loam or loam
Reaction—very strongly acid to moderately acid
Content of rock fragments—0 to 5 percent gravel

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—clay loam or loam
Reaction—very strongly acid to moderately acid
Content of rock fragments—0 to 10 percent gravel

BCt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6
Texture—clay loam or loam
Reaction—moderately acid to slightly alkaline
Content of rock fragments—3 to 14 percent gravel

CB or C horizon:
Hue—10YR
Value—5 or 6
Chroma—3 to 6
Texture—loam or clay loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—3 to 14 percent gravel

Holton Series

Taxonomic classification: Coarse-loamy, mixed, active, nonacid, mesic Aeric Endoaquepts

Typical Pedon for the Series

Holton silt loam, in a nearly level area in an idle field; 1,050 feet east and 200 feet south of the northwest corner of sec. 29, T. 10 N., R. 13 E., Ripley County, Indiana; about 3 miles north of Spades; USGS Spades, Indiana, topographic quadrangle; lat. 39 degrees 17 minutes 40 seconds N. and long. 85 degrees 06 minutes 29 seconds W., NAD 27; UTM Zone 16, 663153 Easting and 4351164 Northing, NAD 83.

Ap—0 to 7 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; weak very fine granular structure; friable; many very fine roots; slightly acid; gradual smooth boundary.

BA—7 to 14 inches; brown (10YR 5/3) loam; weak medium subangular blocky structure; friable; many fine roots; few fine faint dark yellowish brown (10YR 4/4) masses that have accumulated iron and are in the matrix; slightly acid; abrupt smooth boundary.

Bg1—14 to 20 inches; grayish brown (10YR 5/2) fine sandy loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; common fine roots; many coarse distinct yellowish brown (10YR 5/4) and few fine distinct dark yellowish brown (10YR 4/4) masses that have accumulated iron and are in the matrix; moderately acid; gradual smooth boundary.

Bg2—20 to 31 inches; grayish brown (10YR 5/2) fine sandy loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few fine roots; many medium distinct yellowish brown (10YR 5/4) and few fine distinct dark yellowish brown (10YR 4/4) masses that have accumulated iron and are in the matrix; strongly acid; gradual smooth boundary.

Bg3—31 to 41 inches; grayish brown (10YR 5/2) fine sandy loam; weak medium prismatic structure parting to weak fine subangular blocky; friable; few fine roots; common medium distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; strongly acid; gradual smooth boundary.

Cg—41 to 60 inches; grayish brown (10YR 5/2) fine

sandy loam; massive; very friable; many coarse distinct dark yellowish brown (10YR 4/4) masses that have accumulated iron and are in the matrix; slightly acid.

Range in Characteristics

Depth to the base of the cambic horizon: 22 to 48 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam or loam
Reaction—moderately acid to neutral

BA, Bw, or Bg horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 6
Texture—silt loam, loam, fine sandy loam, or sandy loam; layers of loamy sand 1 to 3 inches thick in some pedons
Reaction—strongly acid to neutral
Content of rock fragments—0 to 10 percent gravel

C or Cg horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 4
Texture—fine sandy loam, sandy loam, loam, or sandy clay loam or stratified with these textures; strata of loamy sand or loamy fine sand in some pedons
Reaction—slightly acid or neutral
Content of rock fragments—0 to 14 percent gravel

Kendallville Series

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Hapludalfs
Taxadjunct features: The CEC activity class of the Kendallville soils in this survey area does not meet the criteria for superactive. This difference, however, does not affect the usefulness or behavior of the soils. These soils are classified as fine-loamy, mixed, active, mesic Typic Hapludalfs.

Typical Pedon for the Series

Kendallville silt loam, on a slope of 4 percent, in a meadow of timothy; 3,140 feet north of State Highway 161 and 1,300 feet east of Madden Road, Champaign County, Ohio; about 1 mile northeast of Mutual; USGS Urbana, Ohio, topographic quadrangle; lat. 40 degrees 05 minutes 29 seconds N. and long. 83 degrees 37 minutes 42 seconds W., NAD 27; UTM Zone 17, 275939 Easting and 4441217 Northing, NAD 83.

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; many fine and common medium roots; moderately acid; abrupt smooth boundary.
Bt1—7 to 11 inches; brown (7.5YR 5/4) silty clay loam; moderate fine subangular blocky structure; firm; common fine and few medium roots; few faint brown (7.5YR 5/4) clay films on faces of peds; strongly acid; clear smooth boundary.
2Bt2—11 to 15 inches; brown (7.5YR 4/4) clay loam; strong fine subangular blocky structure; very firm; common fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; 10 percent rock fragments; strongly acid; clear smooth boundary.
2Bt3—15 to 22 inches; brown (7.5YR 4/4) gravelly clay; strong medium and coarse subangular blocky structure; very firm; many distinct brown (7.5YR 4/4) clay films on faces of peds and on rock fragments; 20 percent rock fragments; moderately acid; clear wavy boundary.
2Bt4—22 to 30 inches; yellowish brown (10YR 5/4) gravelly loam; weak coarse subangular blocky structure; firm; common distinct dark brown (7.5YR 3/2) clay films on faces of peds and on rock fragments; 30 percent rock fragments; slightly alkaline; abrupt wavy boundary.
3BC—30 to 34 inches; yellowish brown (10YR 5/4) loam; massive; firm; few distinct dark brown (7.5YR 3/2) clay films in voids; 3 percent rock fragments; strongly effervescent; moderately alkaline; gradual wavy boundary.
3C—34 to 60 inches; yellowish brown (10YR 5/4) loam; massive; very firm; 3 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the solum: 25 to 40 inches
Thickness of the loess: Less than 18 inches
Depth to till: Less than 40 inches
Depth to carbonates: 20 to 40 inches

Ap horizon:
Hue—10YR
Value—3 or 4
Chroma—2 or 3
Texture—loam
Reaction—moderately acid to neutral
Content of rock fragments—0 to 14 percent gravel

Bt horizon (where present):
Hue—7.5YR or 10YR
Value—3 to 5

Chroma—3 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid to moderately acid

2Bt horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—3 to 6
Texture—clay loam, sandy clay loam, loam or the gravelly analogs of these textures
Reaction—moderately acid to slightly alkaline
Content of rock fragments—2 to 30 percent gravel

3BC or 3C horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—loam or clay loam or the gravelly analogs of these textures
Reaction—neutral to moderately alkaline in the 3BC horizon; slightly alkaline or moderately alkaline in the 3C horizon
Content of rock fragments—2 to 30 percent gravel

Kurtz Series

Taxonomic classification: Fine-silty, mixed, semiactive, mesic Ultic Hapludalfs

Typical Pedon for the Series

Kurtz silt loam, on a convex, east-facing slope of 37 percent, in a forested area; 500 feet east and 2,000 feet south of the northwest corner of sec. 19, T. 5 N., R. 5 E., Jackson County, Indiana; about 1.5 miles southeast of Brownstown; lat. 38 degrees 51 minutes 42 seconds N. and long. 86 degrees 01 minute 02 seconds W., NAD 27; UTM Zone 16, 585269 Easting and 4301890 Northing, NAD 83.

Oi—0 to 1 inch; roots and partially decomposed leaves.

A—1 to 3 inches; grayish brown (10YR 5/2) silt loam, pale brown (10YR 6/3) dry; moderate medium and fine granular structure; friable; many fine and medium roots; 5 percent gravel (ironstone); extremely acid; abrupt smooth boundary.

E—3 to 7 inches; light yellowish brown (2.5Y 6/4) silt loam; moderate medium and fine granular structure; friable; many fine and medium roots; 4 percent gravel (ironstone); extremely acid; clear smooth boundary.

BE—7 to 13 inches; brownish yellow (10YR 6/6) silt loam; moderate medium and fine subangular blocky structure; friable; common medium and coarse roots; 2 percent gravel (ironstone); very strongly acid; clear wavy boundary.

Bt1—13 to 21 inches; yellowish brown (10YR 5/6) silt loam; common fine faint strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; friable; common medium and coarse roots; many distinct light yellowish brown (10YR 6/4) silt coatings over clay films on faces of peds; 2 percent gravel (ironstone); very strongly acid; clear wavy boundary.

Bt2—21 to 37 inches; strong brown (7.5YR 5/6) and light yellowish brown (2.5Y 6/4) silty clay loam; common fine prominent greenish gray (5GY 6/1) and faint yellowish red (5YR 4/6) mottles; moderate fine and medium subangular blocky structure; firm; common medium and coarse roots; many prominent light yellowish brown (2.5Y 6/4) clay films on faces of peds; 2 percent gravel and cobbles (ironstone); 10 percent parachanners; very strongly acid; gradual wavy boundary.

CB—37 to 47 inches; light olive brown (2.5Y 5/4) extremely parachannery silty clay loam; many medium prominent gray (5Y 6/1) and greenish gray (5GY 6/1) and common fine distinct strong brown (7.5YR 5/6) mottles; weak medium and fine subangular blocky structure and thick platy rock structure; firm; few medium and coarse roots; 5 percent gravel and cobbles (ironstone); 60 percent parachanners; very strongly acid; gradual wavy boundary.

Cr—47 to 60 inches; olive (5Y 4/3) interbedded moderately cemented siltstone and shale bedrock; light olive gray (5Y 6/2) coatings between fragments; 5 percent gravel and cobbles (ironstone); strongly acid.

Range in Characteristics

Depth to the base of the argillic horizon: 32 to 48 inches
Depth to bedrock (paralithic contact): 40 to 60 inches

A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 or 3
Texture—silt loam
Reaction—extremely acid or very strongly acid
Content of rock fragments—1 to 5 percent gravel

E horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—silt loam

Reaction—extremely acid or very strongly acid
Content of rock fragments—1 to 5 percent gravel

Bt horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—4 to 6
Texture—silt loam or silty clay loam or the parachannery analogs of these textures
Reaction—extremely acid or very strongly acid
Content of rock fragments—1 to 5 percent gravel and cobbles
Content of pararock fragments—0 to 30 percent parachanners

CB or BC horizon:
Hue—10YR to 5Y
Value—5 or 6
Chroma—3 to 6
Texture—very parachannery or extremely parachannery analogs of silt loam or silty clay loam
Reaction—very strongly acid or strongly acid
Content of rock fragments—1 to 5 percent gravel and cobbles
Content of pararock fragments—35 to 70 percent parachanners

Cr horizon:
Hue—2.5Y or 5Y
Value—4 to 6
Chroma—3 or 4

Lauer Series

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

Typical Pedon for the Series

Lauer silt loam, in a nearly level area in a cultivated field; 75 feet east and 2,540 feet south of the northwest corner of sec. 32, T. 5 S., R. 3 W., Perry County, Indiana; about 2 miles east and 1.5 miles south of New Boston; USGS Gatchel, Indiana, topographic quadrangle; lat. 38 degrees 02 minutes 18 seconds N. and long. 86 degrees 46 minutes 10 seconds W., NAD 27; UTM Zone 16, 520231 Easting and 4210099 Northing, NAD 83.

Ap—0 to 8 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; moderate fine granular structure; friable; common fine roots; very strongly acid; abrupt smooth boundary.

Bt1—8 to 13 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; common fine roots between peds; many distinct gray (10YR 6/1) and few distinct yellowish brown (10YR 5/4) clay films on faces of peds; few fine irregular black (10YR 2/1) iron and manganese oxide concretions; common medium prominent light brownish gray (10YR 6/2) and common fine distinct pale brown (10YR 6/3) iron depletions in the matrix; very strongly acid; clear wavy boundary.

Bt2—13 to 23 inches; yellowish brown (10YR 5/6) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common fine roots between peds; common distinct light brownish gray (10YR 6/2) and few faint yellowish brown (10YR 5/4) clay films on faces of peds; few fine irregular black (10YR 2/1) iron and manganese oxide concretions; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

Bt3—23 to 34 inches; yellowish brown (10YR 5/6) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; friable; common fine roots between peds; many distinct gray (10YR 6/1) clay films on faces of peds; few fine irregular black (10YR 2/1) iron and manganese oxide concretions; many fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

Bt4—34 to 44 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; many distinct light brownish gray (10YR 6/2) clay films on faces of peds; few fine irregular black (10YR 2/1) iron and manganese oxide concretions; many fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; strongly acid; clear wavy boundary.

Bt5—44 to 54 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; many distinct light brownish gray (10YR 6/2) clay films on faces of peds; few fine irregular black (10YR 2/1) iron and manganese oxide concretions; many fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; slightly acid; clear wavy boundary.

2Bt6—54 to 63 inches; strong brown (7.5YR 5/6) silty clay; moderate coarse subangular blocky structure; firm; many prominent light brownish gray (10YR 6/2) clay films on faces of peds; few fine irregular black (10YR 2/1) iron and manganese oxide concretions; many fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; slightly alkaline; clear wavy boundary.

2Btk1—63 to 73 inches; yellowish brown (10YR 5/6)

silty clay loam with a layer of silt loam 1/4 inch to 2 inches thick at the bottom of the horizon; moderate coarse subangular blocky structure; firm; many prominent light brownish gray (10YR 6/2) clay films on faces of peds; few medium irregular carbonate nodules throughout; many fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; strongly effervescent; moderately alkaline; clear wavy boundary.

2Btk2—73 to 80 inches; yellowish brown (10YR 5/6) stratified silty clay, silty clay loam, and silt loam; moderate coarse subangular blocky structure; firm; many prominent light brownish gray (10YR 6/2) clay films on faces of peds; common medium irregular carbonate nodules throughout; many fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 60 to more than 80 inches
Depth to carbonates: 60 to more than 80 inches
Thickness of the silty material: 30 to 50 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid in the upper part; ranges to slightly acid in the lower part

2Bt horizon:
Hue—7.5YR or 10YR
Value—5 to 7
Chroma—2 to 6
Texture—silty clay loam or silty clay
Reaction—slightly acid to slightly alkaline

2Btk horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 6
Texture—stratified silt loam, silty clay loam, or silty clay
Reaction—slightly alkaline or moderately alkaline

Martinsville Series

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

Typical Pedon for the County

Martinsville loam, sandy substratum, in a nearly level area in a cultivated field; 2,500 feet east and 2,000 feet north of the southwest corner of sec. 2, T. 8 N., R. 5 E., Bartholomew County, Indiana; about 4 miles northwest of Bethel Village; USGS Edinburgh, Indiana, topographic quadrangle; lat. 39 degrees 09 minutes 54.5 seconds N. and long. 85 degrees 56 minutes 36.9 seconds W., NAD 27; UTM Zone 16, 591264 Easting and 4335640 Northing, NAD 83.

Ap—0 to 11 inches; brown (10YR 4/3) loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; few fine roots; neutral; abrupt smooth boundary.

E—11 to 14 inches; dark yellowish brown (10YR 4/4) loam; weak fine granular structure; friable; few fine roots; neutral; clear smooth boundary.

Bt1—14 to 17 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct reddish brown (5YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—17 to 39 inches; brown (7.5YR 4/4) clay loam; weak medium and coarse subangular blocky structure; firm; few fine roots; common distinct dark reddish brown (5YR 3/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt3—39 to 50 inches; brown (7.5YR 4/4) sandy loam; weak coarse subangular blocky structure; friable; clay bridges between sand grains; neutral; clear wavy boundary.

BC—50 to 55 inches; dark brown (7.5YR 3/3) sandy clay loam; weak coarse subangular blocky structure; firm; neutral; abrupt wavy boundary.

C1—55 to 72 inches; pale brown (10YR 6/3) stratified sand, fine sand, and silt; massive; friable; strongly effervescent; moderately alkaline; abrupt wavy boundary.

2C2—72 to 80 inches; pale brown (10YR 6/3) loamy coarse sand; single grain; loose; 12 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to 70 inches

Ap or A horizon:
Hue—10YR

Value—4 or 5 (Ap); 3 (A)
Chroma—2 to 6
Texture—loam or sandy loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 10 percent

Bt or BC horizon:
Hue—7.5YR or 10YR
Value—3 to 6
Chroma—3 to 6
Texture—clay loam, loam, silt loam, sandy loam, or sandy clay loam in the upper part; loam, sandy clay loam, silt loam, sandy loam, fine sandy loam, or loamy sand, or stratified with these textures in the lower part
Reaction—strongly acid to neutral in the upper part; strongly acid to slightly alkaline in the lower part
Content of rock fragments—0 to 10 percent

C horizon:
Hue—10YR
Value—3 to 6
Chroma—3 to 6
Texture—stratified fine sandy loam, sandy loam, loam or silt loam; thin strata of fine sand, loamy sand, loamy fine sand, very fine sandy loam, coarse sand, silt, or sand in some pedons
Reaction—slightly alkaline or moderately alkaline
Average content of sand—48 percent
Content of rock fragments—0 to 10 percent

2C horizon (where present):
Hue—10YR
Value—3 to 7
Chroma—3 to 6
Texture—stratified loamy coarse sand, coarse sand, or sand
Reaction—slightly alkaline or moderately alkaline
Average content of sand—89 percent
Content of rock fragments—0 to 14 percent

McGary Series

Taxonomic classification: Fine, mixed, active, mesic Aeric Epiaqualfs

Typical Pedon for the Series

McGary silt loam, in a nearly level area in a cultivated field; 2,050 feet east and 700 feet north of the southwest corner of sec. 24, T. 6 N., R. 7 W., Greene County, Indiana; at the north edge of Marco; USGS Sandborn, Indiana, topographic quadrangle; lat. 38 degrees 56 minutes 21 seconds N. and long. 87 degrees 08 minutes 30 seconds W., NAD 27; UTM Zone 16, 487722 Easting and 4310041 Northing, NAD 83.

Ap—0 to 11 inches; dark grayish brown (10YR 4/2) silt loam, light gray (10YR 7/2) dry; weak coarse subangular blocky structure parting to moderate fine and medium granular; friable; neutral; abrupt smooth boundary.

2Bt—11 to 15 inches; brown (10YR 5/3) silty clay; moderate medium subangular blocky structure; firm; many faint grayish brown (10YR 5/2) clay films on faces of peds; common fine distinct gray (10YR 6/1) irregularly shaped iron depletions in the matrix; moderately acid; clear smooth boundary.

2Btg1—15 to 22 inches; grayish brown (10YR 5/2) silty clay; weak fine and medium prismatic structure parting to moderate medium angular blocky; firm; many distinct gray (10YR 5/1) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/4) irregularly shaped masses that have accumulated iron and are in the matrix; few fine black (10YR 2/1) iron and manganese oxide concretions; neutral; clear smooth boundary.

2Btg2—22 to 27 inches; grayish brown (10YR 5/2) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; many distinct gray (10YR 5/1) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/4) masses that have accumulated iron and are in the matrix; slightly effervescent in places; slightly alkaline; gradual irregular boundary.

2Btg3—27 to 42 inches; gray (10YR 5/1) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; common distinct gray (10YR 6/1) clay films on faces of peds; few fine and medium weakly cemented calcium carbonate nodules; common fine distinct light yellowish brown (10YR 6/4) masses that have accumulated iron and are in the matrix; slightly effervescent; slightly alkaline; clear irregular boundary.

2BCtgk—42 to 50 inches; gray (10YR 6/1) silty clay; weak coarse angular blocky structure; firm; few faint gray (10YR 5/1) clay films on faces of peds; common fine and medium weakly cemented calcium carbonate nodules; common fine prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; strongly effervescent; moderately alkaline; gradual wavy boundary.

2Cg—50 to 60 inches; gray (10YR 6/1) stratified silty clay loam and silty clay; massive; firm; common fine and medium weakly cemented calcium carbonate nodules; common fine prominent

Figure 28—Profile of Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration. The scale is in feet.

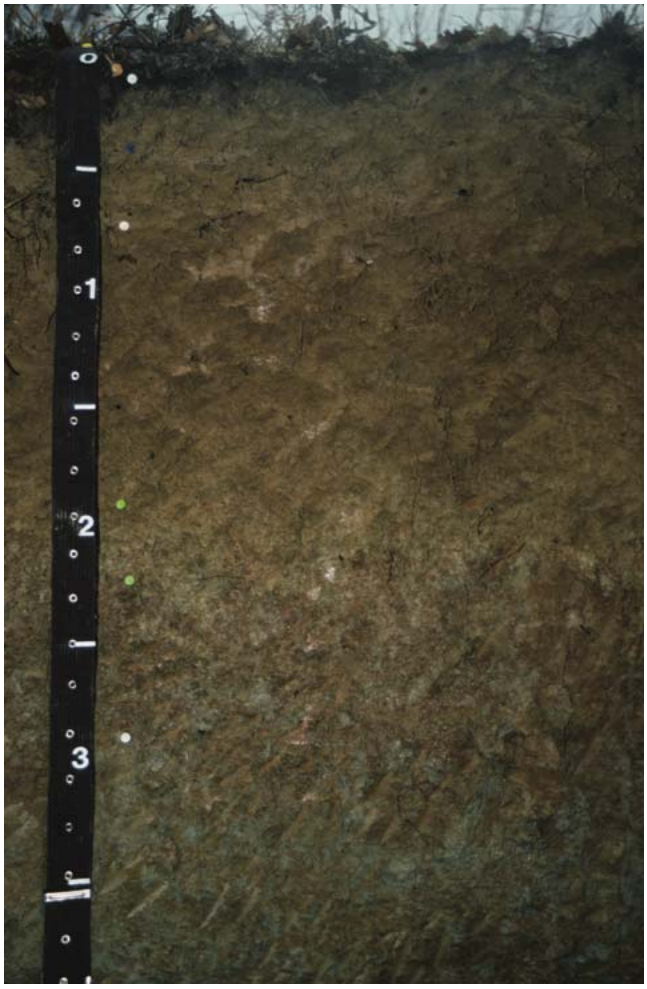

Figure 29.—Profile of Coolville soils in an area of Coolville-Rarden-Stonehead silt loams, 12 to 18 percent slopes, eroded. The scale is in feet.

Figure 30.—Profile of Crosby silt loam, 0 to 2 percent slopes. The scale is in centimeters.

Figure 31.—Profile of Cyclone silty clay loam, 0 to 1 percent slopes. The scale is in centimeters.

Figure 32.—Profile of Fincastle silt loam, 0 to 2 percent slopes. The scale is in centimeters.

Figure 33.—Profile of Medora silt loam, 2 to 6 percent slopes. The scale is in feet.

Figure 34.—Profile of Miami silt loam, 6 to 12 percent slopes, eroded. The scale is in centimeters.

Figure 35.—Profile of Nineveh sandy loam, 0 to 2 percent slopes. The scale is in feet.

Figure 36.—Profile of Xenia silt loam, 2 to 6 percent slopes, eroded. The scale is in feet.

yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 24 to 50 inches
Depth to carbonates: 22 to 56 inches
Thickness of the loess: Less than 20 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—1 to 4
Texture—silt loam
Reaction—moderately acid to neutral

2Bt or 2Btg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay loam or silty clay
Reaction—very strongly acid to slightly alkaline

2BCtgk, 2BCg, or 2BC horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—silty clay or silty clay loam
Reaction—neutral to moderately alkaline

2C or 2Cg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—stratified silty clay or silty clay loam; thin strata of silt loam in some pedons
Reaction—slightly alkaline or moderately alkaline

Medora Series

Taxonomic classification: Fine-silty, mixed, active, mesic Typic Fragiudults
Taxadjunct features: The Medora soils in this survey area do not have a subhorizon with a fragipan that has vertical streaks having a mean horizontal dimension of 4 inches or more. This difference, however, does not affect the usefulness or behavior of the soils. These soils are classified as fine-silty, mixed, active, mesic Fragiaquic Paleudults.

Typical Pedon for the County

Medora silt loam (fig. 33), on a southwest-facing slope of 4 percent, in an idle field; 1,980 feet west and 355 feet north of the southeast corner of sec. 19, T. 10 N., R. 5 E., Bartholomew County, Indiana; about 3.5 miles west of Taylorsville; USGS Nineveh, Indiana, topographic quadrangle; lat. 39 degrees 17 minutes 18 seconds N. and long. 86 degrees 01 minute 01 second W., NAD 27; UTM Zone 16, 584760 Easting and 4349258 Northing, NAD 83.

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, light yellowish brown (10YR 6/4) dry; moderate fine and medium granular structure; friable; moderately acid; abrupt smooth boundary.
Bt1—9 to 24 inches; yellowish brown (10YR 5/6) silt loam; moderate fine and medium subangular blocky structure; firm; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; very strongly acid; clear wavy boundary.
Bt2—24 to 32 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; firm; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine and medium black (N 2.5/0) iron and manganese oxide concretions; common medium distinct brown (10YR 5/3) iron depletions in the matrix; few light gray (10YR 7/2) clay depletions on faces of peds; very strongly acid; clear wavy boundary.
Btx1—32 to 53 inches; yellowish brown (10YR 5/4) silt loam; weak medium and coarse subangular blocky structure; very firm; common fine vesicular pores; many distinct dark brown (10YR 4/4) and common distinct pale brown (10YR 6/3) clay films on faces of peds and in pores; common fine and medium black (N 2.5/0) and common fine yellowish brown (10YR 5/8) iron and manganese oxide concretions; common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; few prominent white (10YR 8/1) clay depletions on faces of peds; 40 percent brittle; very strongly acid; clear wavy boundary.
2Btx2—53 to 60 inches; yellowish brown (10YR 5/6) loam; weak medium prismatic structure; very firm; common fine vesicular pores; common distinct brown (10YR 5/3) clay films on faces of peds and in pores; common fine and medium black (N 2.5/0) iron and manganese oxide concretions; common prominent light gray (10YR 7/1) clay depletions on faces of peds; 40 percent brittle; 3 percent gravel; very strongly acid; gradual wavy boundary.
3Bt1—60 to 74 inches; brown (7.5YR 5/4) clay loam; weak medium angular blocky structure; firm; common fine pores; many prominent red (2.5YR 4/6) and common distinct strong brown (7.5 YR 4/6) clay films on faces of peds; common distinct

light gray (10YR 7/2) clay depletions on faces of peds; 2 percent gravel; very strongly acid; gradual wavy boundary.

3Bt2—74 to 88 inches; yellowish red (5YR 4/6) sandy clay loam; weak medium subangular blocky structure; firm; common prominent red (2.5YR 4/6) and few distinct brown (7.5YR 4/3) clay films on faces of peds; common medium black (N 2.5/0) iron and manganese oxide concretions; 5 percent gravel; very strongly acid.

Range in Characteristics

Thickness of the loess: 30 to 60 inches

Depth to a layer that has fragic soil properties: 20 to 36 inches

Depth to the base of the argillic horizon: More than 80 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 to 6; redoximorphic depletions in some pedons
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid

Btx or 2Btx horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 6
Texture—silt loam, loam, or clay loam
Reaction—very strongly acid
Content of rock fragments—0 to 14 percent gravel

3Bt horizon:
Hue—2.5YR to 7.5YR
Value—4 or 5
Chroma—4 to 8
Texture—clay loam, sandy clay loam, sandy clay, clay, gravelly clay loam, or gravelly sandy clay loam
Reaction—very strongly acid or strongly acid
Content of rock fragments—0 to 15 percent gravel

Medway Series

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Fluvaquentic Hapludolls

Typical Pedon for the County

Medway silty clay loam, in a nearly level area in a cultivated field; 75 feet west and 500 feet north of the southeast corner of sec. 5, T. 10 N., R. 6 E., Bartholomew County, Indiana; about 1 mile north and 1.5 miles west of St. Louis Crossing; USGS Hope, Indiana, topographic quadrangle; lat. 39 degrees 20 minutes 02.5 seconds N. and long. 85 degrees 52 minutes 33.4 seconds W., NAD 27; UTM Zone 16, 596875 Easting and 4354453 Northing, NAD 83.

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; neutral; clear smooth boundary.

A—10 to 18 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate medium subangular blocky structure; firm; many fine and medium roots; 1 percent rock fragments; neutral; abrupt smooth boundary.

Bw1—18 to 24 inches; brown (10YR 4/3) clay loam; moderate fine and medium subangular blocky structure; firm; few fine roots; common faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few fine and medium very dark brown (10YR 2/2) masses of iron and manganese oxide concretions; few fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; 1 percent rock fragments; neutral; clear smooth boundary.

Bw2—24 to 30 inches; brown (10YR 5/3) clay loam; moderate fine and medium subangular blocky structure; firm; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few fine very dark brown (10YR 2/2) masses of iron and manganese oxide concretions; few fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; 2 percent rock fragments; neutral; clear smooth boundary.

Bw3—30 to 38 inches; light olive brown (2.5Y 5/3) clay loam; moderate fine and medium subangular blocky structure; firm; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common medium prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few fine

faint grayish brown (10YR 5/2) iron depletions in the matrix; 2 percent rock fragments; neutral; clear smooth boundary.

Bw4—38 to 48 inches; yellowish brown (10YR 5/4) loam; moderate fine subangular blocky structure; friable; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; 5 percent rock fragments; neutral; abrupt smooth boundary.

C—48 to 55 inches; yellowish brown (10YR 5/4) gravelly loam; massive; friable; 25 percent rock fragments; strongly effervescent; moderately alkaline; clear wavy boundary.

Cg—55 to 60 inches; grayish brown (10YR 5/2) stratified gravelly sandy loam and loam; massive; very friable; 34 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches

Depth to the base of the cambic horizon: 28 to 60 inches

Depth to carbonates: 30 to more than 80 inches

Ap, A, or AB horizon:
- Hue—10YR
- Value—2 or 3
- Chroma—1 to 3
- Texture—silty clay loam
- Reaction—slightly acid to slightly alkaline
- Content of rock fragments—0 to 14 percent

Bw or Bg horizon:
- Hue—7.5YR to 2.5Y
- Value—3 to 5
- Chroma—2 to 4
- Texture—loam, silt loam, clay loam, silty clay loam, sandy loam, fine sandy loam, or sandy clay loam
- Reaction—slightly acid to moderately alkaline
- Content of rock fragments—0 to 14 percent

C or Cg horizon:
- Hue—7.5YR to 2.5Y
- Value—4 or 5
- Chroma—1 to 6
- Texture—stratified loam, silt loam, sandy loam, silty clay loam, or clay loam or the gravelly analogs of these textures
- Reaction—slightly acid to moderately alkaline
- Content of rock fragments—0 to 35 percent

Miami Series

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

Typical Pedon for the Series

Miami silt loam (fig. 34), on a convex slope of 3 percent, in a cultivated field; 800 feet west and 300 feet south of the northeast corner of sec. 6, T. 15 N., R. 1 E., Hendricks County, Indiana; about 3 miles northeast of Danville; USGS Brownsburg, Indiana, topographic quadrangle; lat. 39 degrees 46 minutes 31.5 seconds N. and long. 86 degrees 27 minutes 37.2 seconds W., NAD 27; UTM Zone 16, 546217 Easting and 4402976 Northing, NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; neutral; abrupt smooth boundary.

Bt1—8 to 13 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; firm; many distinct brown (7.5YR 4/4) clay films on faces of peds and on surfaces along pores; 1 percent rock fragments; moderately acid; abrupt wavy boundary.

2Bt2—13 to 23 inches; dark yellowish brown (10YR 4/4) clay loam; strong coarse subangular blocky structure; firm; many distinct brown (7.5YR 4/4) clay films on faces of peds and on surfaces along pores; 2 percent rock fragments; strongly acid; clear wavy boundary.

2Bt3—23 to 31 inches; dark yellowish brown (10YR 4/4) clay loam; moderate coarse subangular blocky structure; firm; many distinct brown (7.5YR 4/4) clay films on faces of peds and on surfaces along pores; common fine and medium rounded very dark gray (10YR 3/1) masses that have accumulated iron and manganese and are in the matrix; 5 percent rock fragments; moderately acid; clear wavy boundary.

2BCt—31 to 36 inches; brown (10YR 4/3) loam; weak coarse prismatic structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine and medium irregular very dark gray (10YR 3/1) masses that have accumulated iron and manganese and are in the matrix; common medium faint light brownish gray (10YR 6/2) irregularly shaped iron depletions in the matrix; 5 percent rock fragments; slightly effervescent; slightly alkaline; clear irregular boundary.

2Cd—36 to 80 inches; brown (10YR 5/3) loam; massive; very firm; few fine irregular very dark

gray (10YR 3/1) masses that have accumulated iron and manganese and are in the matrix; common medium faint grayish brown (10YR 5/2) irregularly shaped iron depletions in the matrix; 5 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 24 to 40 inches
Thickness of the loess: Less than 18 inches
Depth to carbonates: 20 to 40 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—1 to 4
Texture—silt loam, loam, or clay loam
Reaction—moderately acid to neutral
Content of rock fragments—0 to 5 percent

Bt or 2Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—silt loam, silty clay loam, or clay loam
Reaction—strongly acid to neutral
Content of rock fragments—1 to 10 percent

2BCt or BCt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—3 or 4
Texture—loam or fine sandy loam
Reaction—neutral or slightly alkaline
Content of rock fragments—1 to 10 percent

2Cd or Cd horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—loam or fine sandy loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—1 to 10 percent

Milton Series

Taxonomic classification: Fine, mixed, active, mesic Typic Hapludalfs
Taxadjunct features: The Milton soil in map unit MrbF has less clay in the particle-size control section than is defined for the series. This difference, however, does not affect the usefulness or behavior of the soil. This soil is classified as a fine-loamy, mixed, active, mesic Typic Hapludalf.

Typical Pedon for the County

Milton silt loam, on a slope of 1 percent, in a cultivated field; 950 feet south and 2,600 feet east of the northwest corner of sec. 17, T. 9 N., R. 7 E., Bartholomew County, Indiana; about 2.5 miles east of Petersville; USGS Elizabethtown, Indiana, topographic quadrangle; lat. 39 degrees 13 minutes 52.9 seconds N. and long. 85 degrees 46 minutes 20.39 seconds W., NAD 27; UTM Zone 16, 605962 Easting and 4343175 Northing, NAD 83.

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; neutral; abrupt smooth boundary.
Bt1—9 to 13 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine subangular blocky structure; friable; few distinct dark brown (10YR 3/3) clay films on faces of peds; neutral; clear smooth boundary.
2Bt2—13 to 19 inches; brown (7.5YR 4/4) clay loam; moderate fine and medium subangular blocky structure; firm; many distinct dark brown (7.5YR 3/2) clay films on faces of peds; 5 percent rock fragments; neutral; clear smooth boundary.
2Bt3—19 to 29 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; firm; many distinct dark brown (10YR 3/3) clay films on faces of peds; 8 percent rock fragments; slightly acid; clear wavy boundary.
3Bt4—29 to 31 inches; dark brown (7.5YR 3/2) silty clay; strong coarse subangular blocky structure; very firm; many distinct dark brown (7.5YR 3/2) clay films on faces of peds; few fragments of partially and highly weathered limestone; neutral; abrupt wavy boundary.
3R—31 to 60 inches; limestone bedrock.

Range in Characteristics

Depth to the base of the argillic horizon: 20 to 40 inches
Depth to bedrock (lithic contact): 20 to 40 inches
Thickness of the loess: Less than 18 inches
Parent material: Loess in the Bt horizon, till in the Bt or 2Bt horizon, and residuum in the 2Bt or 3Bt horizon

Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 5 percent

E or BE horizon (where present):
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—2 to 4
Texture—loam or silt loam
Reaction—very strongly acid to moderately acid
Content of rock fragments—0 to 5 percent

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 5 percent

Bt or 2Bt horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—3 to 6
Texture—clay, silty clay, or clay loam
Reaction—strongly acid to slightly alkaline
Content of rock fragments—1 to 12 percent

2Bt or 3Bt horizon:
Hue—5YR to 5Y
Value—3 to 5
Chroma—2 to 4
Texture—clay, silty clay, sandy clay, or clay loam or the channery or cobbly analogs of these textures
Reaction—slightly acid to slightly alkaline
Content of rock fragments—2 to 25 percent

Nabb Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aquic Fragiudalfs

Typical Pedon for the Series

Nabb silt loam, on a convex slope of 3 percent, in a cultivated field; 1,190 feet west and 830 feet south of the center of sec. 21, T. 4 N., R. 7 E., Scott County, Indiana; about 2 miles northeast of Albion; USGS Crothersville, Indiana, topographic quadrangle; lat. 38 degrees 46 minutes 12 seconds N. and long. 85 degrees 45 minutes 11 seconds W., NAD 27; UTM Zone 16, 608328 Easting and 4291998 Northing, NAD 83.

Ap—0 to 7 inches; 75 percent dark yellowish brown (10YR 4/4) and 25 percent brownish yellow (10YR 6/6) silt loam, very pale brown (10YR 7/3) dry; moderate fine granular structure; friable; common very fine roots; few fine rounded black (10YR 2/1) iron and manganese oxide concretions; strongly acid; abrupt smooth boundary.

BE—7 to 13 inches; brownish yellow (10YR 6/6) silt loam; weak medium subangular blocky structure; friable; common very fine roots; few distinct very pale brown (10YR 7/3) silt coatings on faces of peds; common fine rounded black (10YR 2/1) iron and manganese oxide concretions; very strongly acid; clear wavy boundary.

Bt—13 to 20 inches; brownish yellow (10YR 6/6) silt loam; weak medium subangular blocky structure; friable; few very fine roots; few faint yellowish brown (10YR 5/6) clay films on faces of peds; common distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; common fine rounded black (10YR 2/1) iron and manganese oxide concretions; few fine prominent light gray (10YR 7/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

Bt/BE—20 to 33 inches; 65 percent yellowish brown (10YR 5/4) silty clay loam (Bt); moderate medium prismatic structure parting to moderate coarse subangular blocky; firm; few very fine roots; many distinct light brownish gray (10YR 6/2) and brown (10YR 5/3) clay films on faces of peds; many distinct pale brown (10YR 6/3) silt coatings on faces of peds; common fine rounded black (10YR 2/1) iron and manganese oxide concretions; common fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 35 percent light yellowish brown (10YR 6/4) silt loam (BE) filling former krotovina and root channels; weak fine subangular blocky structure; friable; few very fine roots; very strongly acid; gradual wavy boundary.

2Btx/Bt—33 to 53 inches; 65 percent yellowish brown (10YR 5/8) silt loam (Btx); moderate very coarse prismatic structure parting to weak very thick platy; very firm; common prominent gray (10YR 6/1) clay films on faces of vertical peds; brittle; 35 percent yellowish brown (10YR 5/6) silt loam (Bt); weak medium subangular blocky structure; friable; common fine prominent light gray (10YR 7/2) iron depletions in the matrix; few fine rounded black (10YR 2/1) iron and manganese oxide concretions in both parts of the horizon; 1 percent gravel; very strongly acid; gradual wavy boundary.

2Btx—53 to 71 inches; yellowish brown (10YR 5/8) silt loam; moderate very coarse prismatic structure; firm; few prominent gray (10YR 6/1) clay films on faces of peds; few fine rounded black (10YR 2/1) iron and manganese oxide concretions; common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 1 percent gravel; 75

percent brittle; very strongly acid; diffuse wavy boundary.

3Btb—71 to 80 inches; strong brown (7.5YR 5/8) clay loam; moderate coarse subangular blocky structure; firm; common prominent gray (10YR 5/1) clay films on faces of peds; common medium irregular black (10YR 2/1) iron and manganese oxide concretions; common medium prominent gray (10YR 6/1) iron depletions in the matrix; 8 percent gravel; moderately acid.

Range in Characteristics

Thickness of the loess: 60 to 90 inches

Content of sand: Averages less than 18 percent in the upper 20 to 40 inches; averages 18 to 25 percent in the lower part of the profile

Depth to a fragipan: 24 to 40 inches

Depth to the base of the argillic horizon: More than 80 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—3 or 4
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

BE or EB horizon:
Hue—10YR
Value—5 or 6
Chroma—3 to 6
Texture—silt loam
Reaction—commonly very strongly acid or strongly acid; ranges to neutral

Bt or Bt/BE horizon:
Hue—10YR
Value—5 or 6
Chroma—4 to 6
Texture—silt loam or silty clay loam (Bt); silt loam (BE)
Reaction—extremely acid to strongly acid

2Btx/Bt or 2Btx horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—4 to 8
Texture—silt loam or silty clay loam
Reaction—extremely acid to strongly acid
Content of rock fragments—1 to 2 percent gravel

3Btb horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—6 to 8; 2 in areas where hue is 10YR and value is 6
Texture—clay loam or loam
Reaction—strongly acid to neutral
Content of rock fragments—4 to 10 percent gravel

Nineveh Series

Taxonomic classification: Fine-loamy over sandy or sandy-skeletal, mixed, active, mesic Typic Argiudolls

Taxadjunct features: The Nineveh soils in map units NpcA and NpcAQ have less clay in the particle-size control section than is defined for the series. This difference, however, does not affect the usefulness or behavior of the soils. These soils are classified as coarse-loamy, mixed, active, mesic Typic Argiudolls.

Typical Pedon for the Series

Nineveh sandy loam (fig. 35), on a slope of 1 percent, in a cultivated field; about 300 feet north and 75 feet east of the southwest corner of sec. 26, T. 11 N., R. 5 E., Shelby County, Indiana; about 6 miles west of Flat Rock; USGS Edinburgh, Indiana, topographic quadrangle; lat. 39 degrees 21 minutes 46.3 seconds N. and long. 85 degrees 57 minutes 08.5 seconds W., NAD 27; UTM Zone 16, 590243 Easting and 4357574 Northing, NAD 83.

Ap—0 to 8 inches; dark brown (7.5YR 3/2) sandy loam, grayish brown (10YR 5/2) dry; weak medium granular structure; friable; few fine and medium tubular pores throughout; 2 percent fine and medium rock fragments; neutral; abrupt smooth boundary.

AB—8 to 13 inches; dark brown (7.5YR 3/2) loam, brown (7.5YR 5/2) dry; weak medium subangular blocky structure; friable; few fine and medium tubular pores throughout; few faint dark brown (7.5YR 3/2) clay films on faces of peds; 2 percent rock fragments; neutral; clear smooth boundary.

Bt1—13 to 24 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; few fine and medium tubular pores throughout; few prominent dark brown (7.5YR 3/2) clay films on faces of peds and on rock fragments; 5 percent rock fragments; neutral; clear smooth boundary.

Bt2—24 to 33 inches; brown (7.5YR 4/4) gravelly clay loam; moderate medium and coarse subangular

blocky structure; firm; few roots; few prominent dark brown (7.5YR 3/2) clay films on faces of peds and coatings on rock fragments; 15 percent rock fragments; neutral; clear irregular boundary.

Bt3—33 to 36 inches; dark reddish brown (5YR 3/2) gravelly clay loam; weak coarse subangular blocky structure; firm; few distinct dark reddish brown (5YR 3/2) clay films on faces of peds and bridges between sand grains; 20 percent rock fragments; slightly alkaline; abrupt irregular boundary.

2C—36 to 60 inches; yellowish brown (10YR 5/4), pale brown (10YR 6/3), and light gray (10YR 7/2) stratified very gravelly coarse sand and sand; single grain; loose; tongues of Bt horizon extend to a depth of 45 to 58 inches and are 18 to 24 inches apart; 43 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 24 to 40 inches

Ap or A horizon:
Hue—7.5YR or 10YR
Value—3
Chroma—2 or 3
Texture—sandy loam, loam, or gravelly sandy loam
Reaction—neutral
Content of rock fragments—0 to 15 percent

AB or BA horizon (where present):
Hue—7.5YR or 10YR
Value—3 or 4
Chroma—2 or 3
Texture—sandy loam or loam or the gravelly analogs of these textures
Reaction—neutral
Content of rock fragments—0 to 15 percent

Bt horizon (upper part):
Hue—7.5YR or 10YR
Value—4
Chroma—3 or 4
Texture—silty clay loam, clay loam, or sandy clay loam or the gravelly analogs of these textures
Reaction—slightly acid or neutral
Content of rock fragments—0 to 15 percent

Bt horizon (middle part):
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 or 4
Texture—loam, clay loam, or sandy clay loam or the gravelly or very gravelly analogs of these textures
Reaction—slightly acid or neutral
Content of rock fragments—0 to 40 percent

Bt horizon (lower part):
Hue—5YR or 7.5YR
Value—3 or 4
Chroma—2 to 4
Texture—gravelly or very gravelly analogs of loam, clay loam, or sandy clay loam
Reaction—neutral or slightly alkaline
Content of rock fragments—averages 15 to 40 percent; no rock fragments in some pedons

2C horizon:
Hue—10YR
Value—5 to 7
Chroma—2 to 4
Texture—stratified very gravelly coarse sand, gravelly coarse sand, gravelly sand, coarse sand, or sand
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—averages 35 to 59 percent; no rock fragments in some pedons

Ockley Series

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

Typical Pedon for the County

Ockley loam, on a slope of 1 percent, in a cultivated field; 700 feet north and 2,200 feet east of the southwest corner of sec. 7, T. 10 N., R. 6 E., Bartholomew County, Indiana; about 2 miles east and 3 miles south of Edinburgh; USGS Edinburgh, Indiana, topographic quadrangle; lat. 39 degrees 19 minutes 12.9 seconds N. and long. 85 degrees 54 minutes 27.8 seconds W., NAD 27; UTM Zone 16, 594155 Easting and 4352890 Northing, NAD 83.

Ap—0 to 10 inches; dark yellowish brown (10YR 3/4) loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; many fine and medium roots; 3 percent rock fragments; neutral; abrupt smooth boundary.

Bt1—10 to 14 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; firm; many distinct brown (7.5YR 4/4) clay films on faces of peds; 3 percent rock fragments; slightly acid; clear smooth boundary.

Bt2—14 to 24 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; firm; many prominent brown (7.5YR 4/4) clay films on faces of peds; 5 percent rock fragments; slightly acid; clear smooth boundary.

Bt3—24 to 38 inches; brown (7.5YR 4/4) sandy clay loam; moderate medium subangular blocky structure; firm; many distinct brown (7.5YR 4/4) clay films on faces of peds; 8 percent rock fragments; neutral; clear smooth boundary.

Bt4—38 to 44 inches; dark brown (7.5YR 3/3) sandy clay loam; moderate medium subangular blocky structure; firm; many distinct dark brown (7.5YR 3/3) clay films on faces of peds; 10 percent rock fragments; slightly alkaline; abrupt wavy boundary.

2C—44 to 80 inches; yellowish brown (10YR 5/4) stratified coarse sand and gravelly coarse sand; single grain; loose; 30 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

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

Thickness of the loess or silty material: Less than 20 inches

Depth to calcareous, stratified sandy and gravelly outwash: 40 to 72 inches

Ap horizon:
- Hue—10YR
- Value—3 to 5
- Chroma—2 to 4
- Texture—loam or silt loam
- Reaction—moderately acid to neutral
- Content of rock fragments—0 to 10 percent

BA horizon (where present):
- Hue—10YR
- Value—4 or 5
- Chroma—2 to 4
- Texture—loam, sandy loam, or clay loam
- Reaction—moderately acid or slightly acid
- Content of rock fragments—0 to 10 percent

Bt or 2Bt horizon (upper part):
- Hue—7.5YR or 10YR
- Value—4 or 5
- Chroma—4 to 6
- Texture—loam, clay loam, or sandy clay loam
- Reaction—strongly acid to slightly acid
- Content of rock fragments—0 to 10 percent

Bt or 2Bt horizon (lower part):
- Hue—5YR or 7.5YR
- Value—3 or 4
- Chroma—2 to 6
- Texture—sandy clay loam, sandy loam, or coarse sandy loam or the gravelly or very gravelly analogs of these textures
- Reaction—strongly acid to neutral; ranges to slightly alkaline in the lower part in some pedons
- Content of rock fragments—10 to 45 percent

2C or 3C horizon:
- Hue—10YR
- Value—4 to 6
- Chroma—3 or 4
- Texture—stratified gravelly to extremely gravelly analogs of loamy coarse sand or coarse sand
- Reaction—slightly alkaline or moderately alkaline
- Content of rock fragments—30 to 70 percent

Oldenburg Series

Taxonomic classification: Coarse-loamy, mixed, active, mesic Fluvaquentic Eutrudepts

Typical Pedon for the Series

Oldenburg silt loam, on a slope of 1 percent, in a cultivated field; 800 feet west and 1,800 feet south of the northeast corner of sec. 13, T. 10 N., R. 11 E., Franklin County, Indiana; about 2.5 miles southwest of Oldenburg; USGS Batesville, Indiana, topographic quadrangle; lat. 39 degrees 19 minutes 05 seconds N. and long. 85 degrees 14 minutes 33 seconds W., NAD 27; UTM Zone 16, 651508 Easting and 4353551 Northing, NAD 83.

Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine roots; neutral; abrupt smooth boundary.

Bw1—9 to 17 inches; brown (10YR 4/3) loam; weak fine subangular blocky structure; friable; many fine roots; common distinct dark brown (10YR 3/3) organic coatings on faces of peds; neutral; clear wavy boundary.

Bw2—17 to 25 inches; brown (10YR 4/3) loam; weak fine subangular blocky structure; friable; common fine roots; common brown (10YR 4/3) organic coatings on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear wavy boundary.

Bw3—25 to 39 inches; brown (10YR 5/3) fine sandy loam; weak fine subangular blocky structure; friable; common fine roots; few brown (10YR 4/3) organic coatings on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; gradual wavy boundary.

C1—39 to 46 inches; brown (10YR 5/3) fine sandy loam; massive; friable; few fine roots; few fine faint light brownish gray (10YR 6/2) and grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear wavy boundary.

C2—46 to 53 inches; brown (10YR 5/3) loamy sand; massive; very friable; common fine faint grayish

brown (10YR 5/2) iron depletions in the matrix; 1 percent gravel; neutral; clear wavy boundary.

C3—53 to 60 inches; brown (10YR 5/3) fine sandy loam; massive; friable; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 1 percent gravel; neutral.

Range in Characteristics

Depth to the base of the cambic horizon: 22 to 44 inches

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—3
Texture—silt loam or loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 10 percent gravel

Bw horizon:
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—loam, silt loam, fine sandy loam, or sandy loam; thin layers of loamy sand or loamy fine sand in some pedons
Reaction—strongly acid to neutral
Content of rock fragments—0 to 10 percent gravel

C or Cg horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 4
Texture—fine sandy loam, sandy loam, or loam; strata of sandy clay loam, loamy sand, loamy fine sand, and gravelly analogs of these textures in some pedons
Reaction—moderately acid to neutral
Content of rock fragments—0 to 34 percent gravel

Pekin Series

Taxonomic classification: Fine-silty, mixed, active, mesic Aquic Fragiudults

Taxadjunct features: The Pekin soils in this survey area do not have a subhorizon with a fragipan that has vertical streaks having a mean horizontal dimension of 4 inches or more. This difference, however, does not affect the usefulness or behavior of the soils. These soils are classified as fine-silty, mixed, active, mesic Fragiaquic Hapludults.

Typical Pedon for the MLRA

Pekin silt loam, on a slope of 3 percent, in a cultivated field; 2,300 feet east and 2,100 feet south of the northwest corner of sec. 23, T. 2 S., R. 5 E., Floyd County, Indiana; about 2 miles southeast of Galena; USGS Georgetown, Indiana, topographic quadrangle; lat. 38 degrees 19 minutes 30 seconds N. and long. 85 degrees 55 minutes 48 seconds W., NAD 27; UTM Zone 16, 593530 Easting and 4242423 Northing, NAD 83.

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

Bt1—10 to 16 inches; yellowish brown (10YR 5/4) silt loam; moderate fine subangular blocky structure; friable; few faint yellowish brown (10YR 5/4) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—16 to 24 inches; yellowish brown (10YR 5/4) silt loam; moderate medium and fine subangular blocky structure; friable; common distinct yellowish brown (10YR 5/6) clay films on faces of peds; common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid; clear smooth boundary.

Btx1—24 to 29 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine vesicular pores; many distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 35 percent brittle; strongly acid; gradual wavy boundary.

Btx2—29 to 45 inches; yellowish brown (10YR 5/6) silt loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine vesicular pores; many prominent grayish brown (10YR 5/2) and common distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 45 percent brittle; extremely acid; gradual wavy boundary.

C—45 to 60 inches; yellowish brown (10YR 5/6) silt loam; massive; firm; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to 70 inches

Depth to a layer that has fragic soil properties: 20 to 38 inches; 10 to 20 inches in pedons in severely eroded areas

Ap horizon:
Hue—10YR
Value—4 to 6
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bt horizon:
Hue—10YR
Value—5 or 6
Chroma—3 to 6
Texture—silt loam or silty clay loam
Reaction—commonly very strongly acid or strongly acid; ranges to neutral

Btx or Btgx horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—2 to 8
Texture—silt loam or silty clay loam
Reaction—extremely acid to strongly acid
Content of rock fragments—0 to 7 percent gravel

C or Cg horizon:
Hue—7.5YR or 10YR
Value—5 or 6
Chroma—2 to 6
Texture—silt loam, silty clay loam, loam, sandy loam, or fine sandy loam
Reaction—very strongly acid to neutral
Content of rock fragments—0 to 10 percent gravel

Peoga Series

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

Typical Pedon for the Series

Peoga silt loam, on a slope of 0.5 percent, in a cultivated field; 1,810 feet east and 645 feet north of the center of sec. 18, T. 4 N., R. 7 E., Scott County, Indiana; about 2 miles northeast of Austin; USGS Crothersville, Indiana, topographic quadrangle; lat. 38 degrees 47 minutes 18 seconds N. and long. 85 degrees 46 minutes 45 seconds W., NAD 27; UTM Zone 16, 606032 Easting and 423788 Northing, NAD 83.

Ap—0 to 8 inches; light brownish gray (10YR 6/2) silt loam, light gray (10YR 7/1) dry; weak coarse subangular blocky structure parting to moderate medium granular; friable; few very fine roots; many fine faint brown (10YR 5/3) masses that have accumulated iron and are in the matrix; common prominent yellowish red (5YR 5/6) pore linings; common prominent black (N 2.5/0) iron and manganese stains; krotovinas filled with brown (10YR 5/3) material; moderately acid; abrupt smooth boundary.

BEg—8 to 19 inches; light gray (10YR 7/2) silt loam; weak medium subangular blocky structure; friable; few very fine roots; common fine prominent reddish yellow (7.5YR 6/8) and common medium prominent brownish yellow (10YR 6/6) masses that have accumulated iron and are in the matrix; common prominent black (N 2.5/0) iron and manganese stains in pores and root channels; krotovinas filled with brown (10YR 5/3) material; very strongly acid; gradual wavy boundary.

Btg1—19 to 27 inches; light gray (10YR 7/2) silt loam; weak coarse prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; common distinct light brownish gray (10YR 6/2) clay films on vertical faces of peds; common fine prominent reddish yellow (7.5YR 6/8) and common medium prominent brownish yellow (10YR 6/6) masses that have accumulated iron and are in the matrix; common prominent black (N 2.5/0) iron and manganese stains on vertical faces of peds; krotovinas filled with brown (10YR 5/3) material; very strongly acid; gradual wavy boundary.

Btg2—27 to 36 inches; light gray (10YR 7/2) silt loam; moderate coarse prismatic structure parting to moderate coarse subangular blocky; friable; few very fine roots between peds; many distinct light brownish gray (10YR 6/2) clay films on vertical faces of peds; common fine prominent reddish yellow (7.5YR 6/8) and common medium distinct light yellowish brown (10YR 6/4) masses that have accumulated iron and are in the matrix; common prominent black (N 2.5/0) iron and manganese stains on vertical faces of peds; krotovinas filled with brown (10YR 5/3) material; very strongly acid; gradual irregular boundary.

Btgx1—36 to 58 inches; 65 percent light gray (10YR 7/2) and 35 percent strong brown (7.5YR 5/6) silt loam; moderate coarse prismatic structure; firm; many distinct light brownish gray (10YR 6/2) clay films on vertical faces of peds; common medium distinct light yellowish brown (10YR 6/4) masses that have accumulated iron and are in the matrix; common prominent black (N 2.5/0) iron and

manganese stains on vertical faces of peds; 35 percent brittle; very strongly acid; gradual wavy boundary.

Btgx2—58 to 76 inches; 65 percent light gray (10YR 7/2) and 35 percent yellowish brown (10YR 5/6) silt loam; moderate coarse prismatic structure; firm; common prominent light brownish gray (10YR 6/2) clay films on vertical faces of peds; 35 percent brittle; strongly acid; diffuse wavy boundary.

2Btb—76 to 80 inches; strong brown (7.5YR 5/6) silty clay loam; moderate coarse subangular blocky structure; firm; common distinct light brownish gray (10YR 6/2) clay films on vertical and horizontal faces of peds; few fine faint yellowish red (5YR 5/6) masses that have accumulated iron and are in the matrix; common coarse irregular iron and manganese concretions; many medium prominent light gray (10YR 7/2) iron depletions in the matrix; strongly acid.

Range in Characteristics

Thickness of the loess: 20 to 40 inches

Depth to the base of the argillic horizon: 55 to more than 80 inches

Depth to a layer that has fragic soil properties: 30 to 45 inches

Ap horizon:
Hue—10YR
Value—4 to 6
Chroma—1 to 3
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—4 to 6
Chroma—1 or 2
Texture—silt loam
Reaction—very strongly acid or strongly acid

Eg, EBg, or BEg horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—1 or 2
Texture—silt loam
Reaction—extremely acid to strongly acid

Btg, Bt, Btgx, or Btx horizon:
Hue—7.5YR to 5Y
Value—5 to 7
Chroma—1 to 6
Texture—silt loam or silty clay loam; loam or clay loam in the lower part
Reaction—extremely acid to moderately acid
Content of rock fragments—0 to 2 percent gravel

2Btb or 2Btg horizon:
Hue—7.5YR or 10YR
Value—5
Chroma—1 to 6
Texture—silt loam, silty clay loam, clay loam, or loam
Reaction—strongly acid to neutral
Content of rock fragments—0 to 2 percent gravel

Pike Series

Taxonomic classification: Fine-silty, mixed, active, mesic Ultic Hapludalfs

Typical Pedon for the Series

Pike silt loam, on a convex slope of 1 percent, in a cultivated field; 2,400 feet west and 1,300 feet north of southeast corner of sec. 34, T. 11 N., R. 3 W., Owen County, Indiana; about 4.5 miles southwest of the town of Gosport; USGS Gosport, Indiana, topographic quadrangle; lat. 39 degrees 20 minutes 35.3 seconds N. and long. 86 degrees 43 minutes 55.3 seconds W., NAD 27; UTM Zone 16, 523092 Easting and 4354898 Northing, NAD 83.

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

Bt1—9 to 12 inches; dark yellowish brown (10YR 4/6) silt loam; moderate very fine subangular blocky structure; friable; many very fine roots; common very fine interstitial and tubular pores; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; strongly acid; abrupt wavy boundary.

Bt2—12 to 21 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; many very fine roots; common very fine interstitial and tubular pores; many distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt3—21 to 39 inches; yellowish brown (10YR 5/4) silt loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; common very fine vesicular and tubular pores; common distinct pale brown (10YR 6/3) silt coatings on faces of peds; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; very strongly acid; gradual wavy boundary.

2Bt4—39 to 44 inches; yellowish brown (10YR 5/4) silt

loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common distinct pale brown (10YR 6/3) silt coatings on faces of peds; common distinct brown (7.5YR 4/4) clay films on faces of peds; very strongly acid; gradual wavy boundary.

2Bt5—44 to 53 inches; dark yellowish brown (10YR 4/6) silt loam; weak coarse prismatic structure parting to weak coarse subangular blocky; friable; many very fine and fine vesicular and tubular pores; common distinct pale brown (10YR 6/3) silt coatings on faces of peds; common distinct strong brown (7.5YR 4/6) clay films on faces of peds and in pores; very strongly acid; clear wavy boundary.

3Btb1—53 to 63 inches; dark yellowish brown (10YR 4/6) loam; weak coarse and very coarse prismatic structure parting to weak medium and coarse subangular blocky; friable; common very fine and fine vesicular and tubular pores; very few distinct dark yellowish brown (10YR 4/4) clay films in root channels and pores; very strongly acid; clear wavy boundary.

3Btb2—63 to 73 inches; yellowish red (5YR 4/6) sandy loam; weak medium and coarse subangular blocky structure; friable; common very fine and fine vesicular and tubular pores; common distinct reddish brown (5YR 4/4) and light yellowish brown (10YR 6/4) clay films on faces of peds; common distinct brown (7.5YR 4/4) clay films on faces of peds and in pores; few fine iron and manganese oxide concretions throughout; very strongly acid; clear wavy boundary.

3Btb3—73 to 80 inches; yellowish red (5YR 4/6) sandy clay loam; weak coarse subangular blocky structure; friable; common fine and very fine vesicular and tubular pores; few prominent red (2.5YR 4/6) and common prominent light yellowish brown (10YR 6/4) clay films on faces of peds; few distinct brown (7.5YR 4/4) clay films on faces of peds and in pores; few fine iron and manganese oxide concretions throughout; 1 percent rounded gravel; very strongly acid.

Range in Characteristics

Depth to the base of the argillic horizon: More than 80 inches

Thickness of the loess: 40 to 60 inches

Ap horizon:
- Hue—10YR
- Value—4
- Chroma—3 or 4
- Texture—silt loam
- Reaction—very strongly acid to neutral

A horizon:
- Thickness—2 to 6 inches
- Hue—10YR
- Value—3
- Chroma—2 or 3
- Texture—silt loam
- Reaction—very strongly acid or strongly acid

Bt horizon:
- Hue—10YR
- Value—4 or 5
- Chroma—4 to 6
- Texture—silt loam or silty clay loam
- Reaction—very strongly acid or strongly acid

2Bt horizon:
- Hue—7.5YR or 10YR
- Value—4 or 5
- Chroma—4 to 6
- Texture—silt loam
- Reaction—very strongly acid or strongly acid

3Btb horizon:
- Hue—2.5YR to 10YR
- Value—4 or 5
- Chroma—4 to 6
- Texture—sandy clay loam, sandy loam, or loam or the gravelly analogs of these textures
- Reaction—very strongly acid or strongly acid
- Content of rock fragments—0 to 25 percent gravel

Piopolis Series

Taxonomic classification: Fine-silty, mixed, active, acid, mesic Typic Fluvaquents

Typical Pedon for the MLRA

Piopolis silty clay loam, in a nearly level area in a cultivated field; 330 feet east and 2,255 feet south of the northwest corner of sec. 12, T. 6 N., R. 4 E., Jackson County, Indiana; about 1 mile east of Surprise; USGS Brownstown, Indiana, topographic quadrangle; lat. 38 degrees 58 minutes 19 seconds N. and long. 86 degrees 02 minutes 20 seconds W., NAD 27; UTM Zone 16, 583245 Easting and 4314112 Northing, NAD 83.

Ap—0 to 10 inches; brown (10YR 5/3) silty clay loam, very pale brown (10YR 7/3) dry; weak medium subangular blocky structure parting to weak medium granular; friable; common very fine and fine roots; common fine prominent strong brown (7.5YR 5/6) masses that have accumulated iron and are in the matrix; many fine rounded iron and manganese oxide concretions; many fine faint light

brownish gray (10YR 6/2) iron depletions in the matrix; neutral; clear smooth boundary.

Cg1—10 to 31 inches; light gray (10YR 7/1) silty clay loam; weak coarse prismatic structure parting to weak coarse subangular blocky; firm; common very fine roots; common medium prominent reddish yellow (7.5YR 6/8) and distinct light yellowish brown (10YR 6/4) masses that have accumulated iron and are in the matrix; many fine rounded iron and manganese oxide concretions; strongly acid; gradual wavy boundary.

Cg2—31 to 60 inches; light gray (10YR 7/1) silty clay loam; massive; firm; few very fine roots; few medium prominent reddish yellow (7.5YR 6/8) and many medium distinct light yellowish brown (10YR 6/4) masses that have accumulated iron and are in the matrix; many fine rounded iron and manganese oxide concretions; strongly acid.

Range in Characteristics

Ap horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—2 or 3
Texture—silty clay loam
Reaction—strongly acid to neutral

A horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—1 or 2
Texture—silty clay loam
Reaction—strongly acid or moderately acid

Cg horizon:
Hue—10YR, 2.5Y, or N
Value—6 or 7
Chroma—0 to 2
Texture—silty clay loam; silt loam or silty clay loam below a depth of 40 inches
Reaction—very strongly acid or strongly acid above a depth of 40 inches; ranges to neutral below a depth of 40 inches

Princeton Series

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

Typical Pedon for the Series

Princeton fine sandy loam, on a slope of 4 percent, in an alfalfa field; 2,380 feet west and 360 feet south of the northeast corner of sec. 5, T. 10 N., R. 9 W., Vigo County, Indiana; 1.5 miles south and 2.5 miles east of Prairieton; USGS Pimento, Indiana, topographic quadrangle; lat. 39 degrees 20 minutes 45 seconds N. and long. 87 degrees 26 minutes 00 seconds W., NAD 27; UTM Zone 16, 462657 Easting and 4355247 Northing, NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) fine sandy loam, grayish brown (10YR 5/2) dry; weak fine granular structure; very friable; many medium roots; neutral; abrupt smooth boundary.

Bt1—8 to 11 inches; strong brown (7.5YR 5/6) loam; weak thick platy structure parting to weak fine and very fine subangular blocky; friable; common medium roots; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct very pale brown (10YR 7/3) silt coatings on faces of peds; slightly acid; clear wavy boundary.

Bt2—11 to 26 inches; brown (7.5YR 4/4) sandy clay loam; moderate medium subangular blocky structure; firm; common medium and fine roots; many distinct reddish brown (5YR 4/4) clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt3—26 to 41 inches; yellowish red (5YR 5/6) fine sandy loam; weak coarse subangular blocky structure; friable; few fine roots; common distinct reddish brown (5YR 4/4) clay films on faces of peds; moderately acid; gradual wavy boundary.

E and Bt—41 to 60 inches; brown (7.5YR 4/4) loamy fine sand (E); weak coarse subangular blocky structure; very friable; common wavy discontinuous strong brown (7.5YR 5/6) fine sandy loam (Bt); strongly acid; gradual wavy boundary.

CB—60 to 80 inches; strong brown (7.5YR 5/6) and brown (7.5YR 4/4) stratified loamy fine sand and fine sand; single grain; loose; strongly acid.

Range in Characteristics

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

Content of rock fragments: None throughout the series control section

Ap or A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—fine sandy loam
Reaction—strongly acid to neutral

Bt horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—4 to 6

Texture—sandy clay loam, fine sandy loam, or loam; thin layers of sandy loam or loamy fine sand
Reaction—strongly acid to slightly acid

E and Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 6
Texture—sand, fine sand, loamy fine sand, or loamy sand (E); lamellae and/or bands of fine sandy loam, sandy loam, or loam (Bt)
Reaction—strongly acid to neutral

CB or C horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 6
Texture—stratified fine sand, loamy fine sand, fine sandy loam, or loamy sand
Reaction—strongly acid to moderately alkaline

Rainsville Series

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

Typical Pedon for the Series

Rainsville silt loam, on a convex, west-facing slope of 4 percent, in a cultivated field; 400 feet west and 1,280 feet south of the northeast corner of sec. 6, T. 21 N., R. 8 W., Warren County, Indiana; about 2 miles north and 1.5 miles east of West Lebanon; USGS Williamsport, Indiana, topographic quadrangle; lat. 40 degrees 17 minutes 53.5 seconds N. and long. 87 degrees 21 minutes 29.3 seconds W., NAD 27; UTM Zone 16, 469562 Easting and 4460919 Northing, NAD 83.

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; moderate fine subangular blocky structure parting to moderate fine granular; friable; common fine and very fine roots; mixing of dark yellowish brown (10YR 4/4) silt loam subsoil material; neutral; abrupt smooth boundary.

Bt1—8 to 13 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine subangular blocky structure; friable; common fine and very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; common dark grayish brown (10YR 4/2) earthworm casts on surfaces along pores; slightly acid; clear wavy boundary.

2Bt2—13 to 21 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; friable; few fine and very fine roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few dark grayish brown (10YR 4/2) earthworm casts on surfaces along pores; 5 percent rock fragments; very strongly acid; clear wavy boundary.

2Bt3—21 to 30 inches; brown (7.5YR 4/4) loam; moderate medium subangular blocky structure; friable; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and on surfaces along pores; few fine prominent yellowish brown (10YR 5/8) masses that have accumulated iron and are in the matrix; 5 percent rock fragments; very strongly acid; gradual wavy boundary.

2Bt4—30 to 42 inches; strong brown (7.5YR 4/6) loam; moderate medium subangular blocky structure; friable; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and on surfaces along pores; common medium faint yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 8 percent rock fragments; strongly acid; abrupt irregular boundary.

3Bt5—42 to 48 inches; olive brown (2.5Y 4/4) loam; moderate coarse subangular blocky structure; firm; common distinct dark brown (10YR 3/3) clay films on faces of peds and on surfaces along pores; few fine distinct brownish yellow (10YR 6/6) masses that have accumulated iron and are in the matrix; few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; 4 percent rock fragments; slightly effervescent; slightly alkaline; clear wavy boundary.

3Cd—48 to 60 inches; light olive brown (2.5Y 5/4) loam; massive; firm; common fine faint light yellowish brown (10YR 6/4) masses that have accumulated iron and are in the matrix; common medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; 9 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 45 to 60 inches
Thickness of the loess: Less than 20 inches
Depth to the 3Bt horizon: 40 to 50 inches

Ap or A horizon:
Hue—10YR
Value—4
Chroma—2 to 4
Texture—silt loam
Reaction—moderately acid to neutral

Bt horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—4 to 6
Texture—silt loam or silty clay loam
Reaction—moderately acid to neutral

2Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 6
Texture—loam, clay loam, or sandy clay loam
Reaction—very strongly acid to moderately acid
Content of rock fragments—1 to 14 percent gravel

3Bt horizon:
Hue—2.5Y
Value—4 or 5
Chroma—3 or 4
Texture—loam
Reaction—neutral or slightly alkaline
Content of rock fragments—2 to 10 percent gravel

3C or 3Cd horizon:
Hue—2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—2 to 10 percent gravel

Rarden Series

Taxonomic classification: Fine, mixed, active, mesic Aquultic Hapludalfs

Typical Pedon for the MLRA

Rarden silty clay loam, on a slope of 7 percent, in a cultivated field; 1,040 feet east and 560 feet north of the southwest corner of sec. 9, T. 2 N., R. 7 E., Scott County, Indiana; about 1 mile south of Vienna; USGS Scottsburg, Indiana, topographic quadrangle; lat. 38 degrees 37 minutes 19 seconds N. and long. 85 degrees 45 minutes 10 seconds W., NAD 27; UTM Zone 16, 608575 Easting and 4275568 Northing, NAD 83.

Ap—0 to 6 inches; 80 percent dark yellowish brown (10YR 4/4) and 20 percent yellowish red (5YR 4/6) silty clay loam, pale brown (10YR 6/3) and yellowish red (5YR 5/6) dry; weak fine and medium subangular blocky structure; firm; common very fine and fine and few medium roots; slightly acid; clear wavy boundary.

2Bt1—6 to 14 inches; yellowish red (5YR 4/6) silty clay; moderate fine subangular blocky structure; firm; common very fine and fine roots between peds; many distinct strong brown (7.5YR 5/6) clay films on faces of peds; very strongly acid; clear wavy boundary.

2Bt2—14 to 21 inches; strong brown (7.5YR 5/6) silty clay; moderate fine and medium angular blocky structure; firm; few very fine and fine roots between peds; many prominent light olive gray (5Y 6/2) and common distinct yellowish red (5YR 5/6) clay films on faces of peds; common fine prominent light olive gray (5Y 6/2) iron depletions in the matrix; extremely acid; clear wavy boundary.

2Bt3—21 to 28 inches; strong brown (7.5YR 5/6) silty clay; weak fine and medium angular blocky structure; firm; few very fine and fine roots between peds; many prominent light olive gray (5Y 6/2) clay films on faces of peds; many fine prominent light olive gray (5Y 6/2) iron depletions in the matrix; extremely acid; gradual wavy boundary.

2BC—28 to 37 inches; light olive brown (2.5Y 5/4) extremely parachannery silty clay; moderate thin and medium platy structure; firm; few very fine and fine roots between peds; few prominent white (10YR 8/1) barite coatings on faces of peds; common fine and medium platy barite masses; common fine prominent strong brown (7.5YR 5/6) masses that have accumulated iron and are in the matrix; many fine and medium prominent gray (5Y 6/1) iron depletions in the matrix; 60 percent weakly cemented parachanners; extremely acid; gradual wavy boundary.

2Cr1—37 to 51 inches; 80 percent olive (5Y 5/3) and 20 percent olive brown (2.5Y 4/4) weakly cemented fractured shale bedrock; very firm; few very fine roots between shale fragments; common medium distinct light olive gray (5Y 6/2) pore linings between shale fragments; very strongly acid; gradual wavy boundary.

2Cr2—51 to 60 inches; olive (5Y 4/3) moderately cemented fractured shale bedrock; very firm; common medium faint light olive gray (5Y 6/2) pore linings between shale fragments; slightly acid.

Range in Characteristics

Depth to the base of the argillic horizon: 20 to 40 inches
Depth to bedrock (paralithic contact): 20 to 40 inches
Thickness of the loess: Less than 14 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4

Texture—silty clay loam or silt loam
Reaction—extremely acid to neutral

A horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silty clay loam or silt loam
Reaction—extremely acid or very strongly acid

Bt horizon (where present):
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—6 to 8
Texture—silty clay loam
Reaction—extremely acid to strongly acid

2Bt horizon:
Hue—2.5YR to 10YR
Value—4 or 5
Chroma—4 to 8
Texture—silty clay, clay, or silty clay loam
Reaction—extremely acid to strongly acid
Content of rock fragments—0 to 5 percent gravel (ironstone)
Content of pararock fragments—0 to 14 percent parachanners

2BC or 2CB horizon:
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—4 to 6
Texture—parachannery to extremely parachannery analogs of silty clay or silty clay loam
Reaction—extremely acid to strongly acid
Content of rock fragments—0 to 5 percent gravel (ironstone)
Content of pararock fragments—30 to 70 percent parachanners

2Cr horizon:
Hue—2.5Y or 5Y
Value—4 to 6
Chroma—3 or 4

Rensselaer Series

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Argiaquolls

Typical Pedon for the County

Rensselaer loam, on a concave slope of less than 1 percent, in a cultivated field; 156 feet east and 830 feet north of the southwest corner of sec. 1, T. 10 N., R. 5 E., Bartholomew County, Indiana; about 1.5 miles east and 1 mile south of Edinburgh; USGS Edinburgh, Indiana, topographic quadrangle; lat. 39 degrees 20 minutes 11.6 seconds N. and long. 85 degrees 56 minutes 00.6 second W., NAD 27; UTM Zone 16, 591911 Easting and 4354674 Northing, NAD 83.

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

A—7 to 15 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; moderate medium and coarse granular structure; friable; common fine roots throughout; few fine distinct olive gray (5Y 4/2) iron depletions in the matrix; neutral; clear wavy boundary.

Btg1—15 to 25 inches; dark grayish brown (2.5Y 4/2) clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots between peds; black (10YR 2/1) organic coatings on some vertical cleavage planes; common distinct dark gray (N 4/0) clay films on faces of peds; common medium distinct olive brown (2.5Y 4/4) masses that have accumulated iron and are in the matrix; neutral; clear wavy boundary.

Btg2—25 to 38 inches; grayish brown (2.5Y 5/2) clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; neutral; clear smooth boundary.

Btg3—38 to 47 inches; grayish brown (2.5Y 5/2) clay loam; weak very coarse subangular blocky structure; firm; few distinct gray (10YR 5/1) clay films on faces of peds; many medium prominent strong brown (7.5YR 5/6) masses that have accumulated iron and are in the matrix; many medium faint dark grayish brown (2.5Y 4/2) iron depletions in the matrix; neutral; clear smooth boundary.

2Cg—47 to 80 inches; stratified pale brown (10YR 6/3) sand, dark gray (10YR 4/1) sandy loam, and gray (10YR 5/1) fine sand and silt loam; massive; friable; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to 60 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—loam or silt loam
Reaction—slightly acid or neutral
Content of rock fragments—0 to 5 percent

Btg or 2Btg horizon:
Hue—10YR to 5Y or N
Value—4 to 6
Chroma—0 to 2
Texture—clay loam, loam, silty clay loam, sandy clay loam, sandy loam, or silt loam
Reaction—slightly acid to slightly alkaline
Content of rock fragments—0 to 5 percent

2Cg horizon:
Hue—10YR, 2.5Y, or N
Value—4 to 6
Chroma—0 to 3
Texture—stratified sand, fine sand, very fine sand, loamy sand, loamy fine sand, sandy loam, loam, or silt loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—0 to 10 percent

Rodman Series

Taxonomic classification: Sandy-skeletal, mixed, mesic Typic Hapludolls

Typical Pedon for the Series

Rodman sandy loam, on a slope of 45 percent, in a forested area; 80 feet north and 200 feet east of the southwest corner of sec. 13, T. 21 N., R. 8 W., Fountain County, Indiana; about 1 mile south and 1 mile west of Attica; USGS Williamsport, Indiana, topographic quadrangle; lat. 40 degrees 15 minutes 29.7 seconds N. and long. 87 degrees 16 minutes 49.3 seconds W., NAD 27; UTM Zone 16, 476158 Easting and 4456462 Northing, NAD 83.

A—0 to 10 inches; black (10YR 2/1) sandy loam, very dark gray (10YR 3/1) dry; moderate fine granular structure; very friable; many fine and medium roots; 14 percent rock fragments; neutral; abrupt smooth boundary.

Bw—10 to 18 inches; brown (7.5YR 4/3) very gravelly coarse sandy loam; weak medium granular structure; very friable; common fine and medium roots; 35 percent rock fragments; slightly alkaline; abrupt smooth boundary.

C—18 to 80 inches; yellowish brown (10YR 5/4) very gravelly loamy coarse sand; single grain; loose; 50 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the cambic horizon: 10 to 20 inches

Depth to carbonates: 10 to 20 inches

A horizon:
Hue—7.5YR or 10YR
Value—2 or 3
Chroma—1 or 2
Texture—sandy loam
Reaction—neutral or slightly alkaline
Content of rock fragments—10 to 14 percent

Bw horizon:
Hue—7.5YR or 10YR
Value—2 to 4
Chroma—1 to 3
Texture—loam, sandy loam, or coarse sandy loam or the gravelly or very gravelly analogs of these textures
Reaction—neutral or slightly alkaline
Content of rock fragments—10 to 40 percent

C horizon:
Hue—10YR
Value—3 to 6
Chroma—1 to 4
Texture—very gravelly or extremely gravelly analogs of loamy coarse sand or sand
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—35 to 78 percent

Rossburg Series

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

Typical Pedon for the County

Rossburg silt loam, on a slope of less than 1 percent, in a cultivated field; 2,625 feet south and 1,558 feet east of the northwest corner of sec. 9, T. 7 N., R. 6 E., Bartholomew County, Indiana; about 1 mile east of Jonesville; USGS Azalia, Indiana, topographic quadrangle; lat. 39 degrees 03 minutes 44.7 seconds N. and long. 85 degrees 52 minutes 05.8 seconds W., NAD 27; UTM Zone 16, 597915 Easting and 4324104 Northing, NAD 83.

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium granular structure; friable; many fine and medium roots; neutral; 1 percent rock fragments; clear smooth boundary.

A—8 to 14 inches; very dark grayish brown (10YR 3/2) silty clay loam, brown (10YR 4/3) dry; moderate medium subangular blocky structure; friable; many fine and medium roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; 1 percent rock fragments; clear smooth boundary.

Bw1—14 to 34 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; many fine and medium roots; common faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; 1 percent rock fragments; clear smooth boundary.

Bw2—34 to 42 inches; yellowish brown (10YR 5/4) loam; weak fine granular structure; friable; few fine roots; few medium distinct black (10YR 2/1) iron and manganese oxide masses in the matrix; slightly effervescent; slightly alkaline; abrupt smooth boundary.

C—42 to 80 inches; yellowish brown (10YR 5/3) stratified sand and sandy loam; massive; friable; strongly effervescent; moderately alkaline.

Range in Characteristics

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

Thickness of the mollic epipedon: 10 to 24 inches

Ap or A horizon:
- Hue—10YR
- Value—2 or 3
- Chroma—1 to 3
- Texture—silt loam or silty clay loam
- Reaction—slightly acid to slightly alkaline
- Content of rock fragments—0 to 5 percent

Bw horizon:
- Hue—10YR
- Value—3 to 5
- Chroma—2 to 6
- Texture—silt loam, loam, fine sandy loam, sandy loam, silty clay loam, or clay loam
- Reaction—slightly acid to slightly alkaline
- Content of rock fragments—0 to 10 percent

C horizon:
- Hue—10YR or 2.5Y
- Value—4 to 6
- Chroma—3 to 6
- Texture—loam, silt loam, fine sandy loam, or sandy loam or the gravelly analogs of these textures; strata of sand or loamy sand or the gravelly or very gravelly analogs of these textures
- Reaction—neutral to moderately alkaline
- Content of rock fragments—0 to 35 percent

Russell Series

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

Typical Pedon for the Series

Russell silt loam, on a convex, southwest-facing slope of 4 percent, in a cultivated field; 2,600 feet north and 2,000 feet west of the southeast corner of sec. 1, T. 14 N., R. 4 W., Putnam County, Indiana; about 2.5 miles northwest of Filmore; USGS Greencastle, Indiana, topographic quadrangle; lat. 39 degrees 40 minutes 54.1 seconds N. and long. 86 degrees 48 minutes 02.4 seconds W., NAD 27; UTM Zone 16, 517094 Easting and 4392454 Northing, NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak medium granular structure; friable; many fine roots; many fine pores; slightly acid; abrupt smooth boundary.

Bt1—8 to 13 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; many fine roots; many fine pores; common distinct brown (7.5YR 4/4) clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—13 to 28 inches; brown (7.5YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; many fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; very strongly acid; clear wavy boundary.

2Bt3—28 to 39 inches; dark yellowish brown (10YR 4/4) clay loam; moderate coarse subangular blocky structure; firm; common fine roots; common distinct brown (7.5YR 4/4) clay films on faces of peds; 3 percent rock fragments; strongly acid; clear wavy boundary.

2Bt4—39 to 52 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; few fine pores; common distinct brown (7.5YR 4/4) clay films on faces of peds; 3 percent rock fragments; strongly acid; clear wavy boundary.

2BCt—52 to 58 inches; yellowish brown (10YR 5/4) clay loam; weak coarse subangular blocky structure; firm; few distinct brown (7.5YR 4/4) clay films on faces of peds; few medium distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few very dark brown (7.5YR 2.5/2) very weakly cemented iron and manganese oxide nodules throughout; 4 percent rock fragments; slightly effervescent; moderately alkaline; clear wavy boundary.

2Cd—58 to 80 inches; yellowish brown (10YR 5/4) loam; massive; very firm; 4 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to 60 inches
Thickness of the loess: 20 to 40 inches
Depth to carbonates: 40 to 60 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam
Reaction—strongly acid to neutral

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid to moderately acid

2Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—clay loam, loam, or silty clay loam
Reaction—strongly acid to neutral
Content of rock fragments—1 to 10 percent

2BCt or 2BC horizon:
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—clay loam or loam
Reaction—neutral to moderately alkaline
Content of rock fragments—1 to 14 percent

2Cd horizon:
Hue—10YR or 2.5Y
Value—5
Chroma—3 to 6
Texture—loam or fine sandy loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—1 to 14 percent

Senachwine Series

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

Typical Pedon for the County

Senachwine loam, on a convex, south-facing slope of 30 percent, in a forested area; 400 feet west and 900 feet north of the southeast corner of sec. 2, T. 9 N., R. 7 E., Bartholomew County, Indiana; about 1 mile south of Hartsville; USGS Grammer, Indiana, topographic quadrangle; lat. 39 degrees 14 minutes 58.4 seconds N. and long. 85 degrees 42 minutes 23.8 seconds W., NAD 27; UTM Zone 16, 611606 Easting and 4345273 Northing, NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; common fine and medium roots; 3 percent rock fragments; neutral; abrupt smooth boundary.

Bt1—8 to 15 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; 3 percent rock fragments; slightly acid; clear smooth boundary.

Bt2—15 to 26 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; 3 percent rock fragments; neutral; clear smooth boundary.

BC—26 to 32 inches; dark yellowish brown (10YR 4/4) clay loam; weak coarse prismatic structure; firm; few fine roots; 3 percent rock fragments; slightly effervescent; slightly alkaline; clear smooth boundary.

C—32 to 60 inches; yellowish brown (10YR 5/4) loam; massive; firm; 3 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 24 to 40 inches
Depth to carbonates: 20 to 40 inches

Ap or A horizon:
Hue—10YR
Value—3 to 5
Chroma—1 to 4
Texture—loam
Reaction—moderately acid to neutral
Content of rock fragments—0 to 3 percent

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam or clay loam
Reaction—strongly acid to slightly acid; neutral in the lower part
Content of rock fragments—1 to 10 percent

BC horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—3 to 6

Texture—clay loam or loam
Reaction—neutral or slightly alkaline
Content of rock fragments—1 to 10 percent

C horizon:
Hue—7.5YR to 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—loam or fine sandy loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—1 to 10 percent

Shircliff Series

Taxonomic classification: Fine, mixed, active, mesic Oxyaquic Hapludalfs

Typical Pedon for the Series

Shircliff silt loam, on a slope of 3 percent, in a cultivated field; 400 feet east and 750 feet north of the southwest corner of sec. 13, T. 5 S., R. 1 W., Perry County, Indiana; about 1 mile north of Dexter; USGS Alton, Indiana, topographic quadrangle; lat. 38 degrees 04 minutes 28 seconds N. and long. 86 degrees 28 minutes 05 seconds W., NAD 27; UTM Zone 16, 546658 Easting and 4214214 Northing, NAD 83.

Ap—0 to 8 inches; 90 percent brown (10YR 5/3) and 10 percent yellowish brown (10YR 5/6) silt loam, very pale brown (10YR 7/3 and 7/4) dry; weak fine subangular blocky structure; friable; many fine roots; strongly acid; abrupt smooth boundary.

Bt1—8 to 19 inches; yellowish brown (10YR 5/6) silty clay loam; strong fine subangular blocky structure; friable; common fine roots; common distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; many distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; very strongly acid; clear wavy boundary.

2Bt2—19 to 28 inches; strong brown (7.5YR 5/6) silty clay; moderate medium subangular blocky structure; firm; common fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; few distinct light yellowish brown (10YR 6/4) silt coatings on faces of peds; common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

2Bt3—28 to 43 inches; dark yellowish brown (10YR 4/4) silty clay; strong coarse angular blocky structure; very firm; few fine roots; many prominent light brownish gray (10YR 6/2) clay films on faces of peds; many medium distinct gray (10YR 6/1) iron depletions in the matrix; moderately acid; clear wavy boundary.

2Btk1—43 to 53 inches; dark yellowish brown (10YR 4/4) silty clay; strong coarse angular blocky structure; very firm; few fine roots; common distinct brown (10YR 5/3) and few distinct light brownish gray (10YR 6/2) clay films on faces of peds; few medium irregular calcium carbonate nodules; many medium distinct gray (10YR 6/1) iron depletions in the matrix; slightly effervescent; moderately alkaline; clear wavy boundary.

2Btk2—53 to 59 inches; brown (10YR 5/3) silty clay loam; moderate coarse subangular blocky structure; very firm; few fine roots; common prominent light brownish gray (10YR 6/2) clay films on faces of peds; few medium irregular calcium carbonate nodules; many coarse prominent yellowish brown (10YR 5/8) masses that have accumulated iron and are in the matrix; common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; strongly effervescent; moderately alkaline; clear wavy boundary.

2Btk3—59 to 80 inches; dark yellowish brown (10YR 4/4) silty clay; strong coarse subangular blocky structure; very firm; common distinct brown (10YR 5/3) and few prominent gray (10YR 6/1) clay films on faces of peds; few medium irregular calcium carbonate nodules; common fine distinct gray (10YR 6/1) iron depletions in the matrix; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the loess: 6 to 20 inches
Depth to the base of the argillic horizon: 40 to more than 80 inches
Depth to carbonates: 30 to 60 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam
Reaction—strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—3 to 5
Chroma—1 to 3
Texture—silt loam
Reaction—strongly acid or moderately acid

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam or silty clay loam
Reaction—very strongly acid to moderately acid

2Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 or 5
Chroma—4 to 6; 2 in areas of redoximorphic depletions
Texture—silty clay loam or silty clay
Reaction—very strongly acid to slightly alkaline

2Btk, 2BCk, 2Btgk, or 2BCgk horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—silty clay, silty clay loam, or silt loam
Reaction—slightly alkaline or moderately alkaline

Shoals Series

Taxonomic classification: Fine-loamy, mixed, superactive, nonacid, mesic Fluventic Endoaquepts

Typical Pedon for the County

Shoals silt loam, on a slope of 1 percent, in a pastured field; 2,634 feet north and 2,037 feet west of the southeast corner of sec. 28, T. 8 N., R. 6 E., Bartholomew County, Indiana; about 1.5 miles northwest of Azalia; USGS Azalia, Indiana, topographic quadrangle; lat. 39 degrees 06 minutes 24.8 seconds N. and long. 85 degrees 51 minutes 43.2 seconds W., NAD 27; UTM Zone 16, 598397 Easting and 4329260 Northing, NAD 83.

A—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, brown (10YR 5/3) dry; weak medium granular structure; friable; few roots; neutral; abrupt smooth boundary.

Bg—8 to 14 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine subangular blocky structure; friable; few roots; few medium distinct dark yellowish brown (10YR 4/4) masses that have accumulated iron and are in the matrix; many medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; fine voids with very dark grayish brown (10YR 3/2) linings; neutral; clear smooth boundary.

Bw—14 to 27 inches; brown (10YR 4/3) loam; weak medium granular structure; friable; few roots; common medium faint dark yellowish brown (10YR 4/4) masses that have accumulated iron and are in the matrix; common medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; neutral; gradual smooth boundary.

Cg1—27 to 43 inches; dark grayish brown (10YR 4/2) stratified loam; weak coarse subangular blocky structure; friable; common medium faint brown (10YR 5/3) and prominent yellowish red (5YR 4/6) masses that have accumulated iron and are in the matrix; neutral; gradual smooth boundary.

Cg2—43 to 60 inches; grayish brown (10YR 5/2) sandy loam; massive; friable; strata of silt loam and loam; common medium faint brown (10YR 5/3) and yellowish red (5YR 4/6) masses that have accumulated iron and are in the matrix; 10 percent rock fragments; slightly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the cambic horizon: 20 to 60 inches

A or Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam or loam
Reaction—neutral or slightly alkaline
Content of rock fragments—0 to 3 percent

Bg or Bw horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—loam, silt loam, clay loam, or sandy clay loam
Reaction—neutral to moderately alkaline
Content of rock fragments—0 to 3 percent

Cg or C horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—loam, silt loam, clay loam, fine sandy loam, or sandy loam; thin strata of loamy sand or sand
Reaction—neutral to moderately alkaline
Content of rock fragments—0 to 14 percent

Sleeth Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Aeric Endoaqualfs

Typical Pedon for the Series

Sleeth loam, on a slope of 1 percent, in a cultivated field; 400 feet east and 70 feet south of the northwest corner of sec. 26, T. 10 N., R. 5 E., Bartholomew County, Indiana; along the south edge of Taylorsville; USGS Edinburgh, Indiana, topographic quadrangle; lat. 39 degrees 17 minutes 17.2 seconds N. and long. 85 degrees 57 minutes 01.5 seconds W., NAD 27;

UTM Zone 16, 590530 Easting and 4349290 Northing, NAD 83.

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; few wormholes and wormcasts; neutral; abrupt smooth boundary.

E—9 to 14 inches; grayish brown (10YR 5/2 loam; moderate medium granular structure; friable; root and worm channels filled with dark grayish brown (10YR 4/2) material; neutral; clear smooth boundary.

Bt—14 to 22 inches; pale brown (10YR 6/3) clay loam; weak medium subangular blocky structure; firm; common distinct grayish brown (10YR 5/2) clay films on faces of peds; root and worm channels filled with dark grayish brown (10YR 4/2) material; few black (10YR 2/1) weakly cemented iron and manganese oxide concretions; many medium faint grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear wavy boundary.

Btg1—22 to 38 inches; light brownish gray (10YR 6/2) clay loam; moderate medium subangular blocky structure; firm; many distinct grayish brown (10YR 5/2) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) and many medium faint pale brown (10YR 6/3) masses that have accumulated iron and are in the matrix; few black (10YR 2/1) weakly cemented iron and manganese oxide concretions; 5 percent rock fragments; neutral; clear smooth boundary.

2Btg2—38 to 45 inches; light brownish gray (10YR 6/2) gravelly clay loam; weak coarse subangular blocky structure; firm; many distinct grayish brown (10YR 5/2) clay films on faces of peds; many medium faint brown (10YR 5/3) and prominent yellowish red (5YR 5/6) masses that have accumulated iron and are in the matrix; few black (10YR 2/1) weakly cemented iron and manganese oxide concretions; 20 percent rock fragments; neutral; clear wavy boundary.

2Btg3—45 to 50 inches; grayish brown (10YR 5/2) gravelly clay loam; weak coarse subangular blocky structure; firm; few faint grayish brown (10YR 5/2) clay films on faces of peds; few medium prominent brownish yellow (10YR 6/6) masses that have accumulated iron and are in the matrix; few medium distinct gray (N 5/0) iron depletions in the matrix; 20 percent rock fragments; neutral; abrupt wavy boundary.

3Cg—50 to 60 inches; gray (10YR 5/1) gravelly sand; single grain; loose; 30 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to 60 inches

Ap or A horizon:
- Hue—10YR
- Value—4 to 6
- Chroma—1 to 4
- Texture—loam or silt loam
- Reaction—moderately acid to neutral
- Content of rock fragments—0 to 10 percent

E horizon:
- Hue—10YR
- Value—4 to 6
- Chroma—1 to 4
- Texture—silt loam or loam
- Reaction—moderately acid to neutral
- Content of rock fragments—0 to 10 percent

Bt or Btg horizon:
- Hue—10YR or 2.5Y
- Value—4 to 6
- Chroma—1 to 4
- Texture—clay loam, loam, or sandy clay loam
- Reaction—strongly acid to neutral
- Content of rock fragments—0 to 10 percent

2Btg or 2Bt horizon:
- Hue—10YR
- Value—4 to 6
- Chroma—1 to 4
- Texture—gravelly analogs of sandy clay loam, loam, clay loam, or sandy loam
- Reaction—moderately acid to slightly alkaline
- Content of rock fragments—15 to 30 percent

3Cg horizon:
- Hue—10YR
- Value—4 or 5
- Chroma—1 or 2
- Texture—gravelly loamy coarse sand, very gravelly coarse sand, gravelly sand, or sand
- Reaction—slightly alkaline or moderately alkaline
- Content of rock fragments—10 to 55 percent

Sloan Series

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

Typical Pedon for the Series

Sloan silty clay loam, on a slope of less than 1 percent, in a cultivated field; 2,600 feet south and 1,980 feet west of the intersection of State Route 49 and Siegrist-Jutte Road; southwest quarter of the

northeast quarter of sec. 6, T. 7 S., R. 1 E., Mercer County, Ohio, Recovery Township; about 2.5 miles north of Fort Recovery; USGS Fort Recovery, Indiana-Ohio topographic quadrangle; lat. 40 degrees 27 minutes 28.8 seconds N. and long. 84 degrees 47 minutes 28 seconds W., NAD 27; UTM Zone 16, 687296 Easting and 4481158 Northing, NAD 83.

Ap—0 to 9 inches; very dark gray (10YR 3/1) silty clay loam, very dark grayish brown (10YR 3/2) rubbed, gray (10YR 5/1) dry; moderate fine and medium angular blocky structure; friable; many fine roots; neutral; abrupt smooth boundary.

A—9 to 15 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate medium angular blocky structure; friable; many fine roots; few medium distinct dark yellowish brown (10YR 3/4) masses that have accumulated iron and are in the matrix; neutral; gradual wavy boundary.

Bg1—15 to 21 inches; dark gray (10YR 4/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; common fine roots; common medium distinct dark yellowish brown (10YR 4/4) masses that have accumulated iron and are in the matrix; few dark iron and manganese oxide concretions throughout; neutral; gradual wavy boundary.

Bg2—21 to 34 inches; gray (10YR 5/1) and dark gray (10YR 4/1) silty clay loam; weak medium subangular blocky structure; firm; few fine roots; many medium prominent brown (7.5YR 4/4) and few fine prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few dark iron and manganese oxide concretions throughout; neutral; clear smooth boundary.

BCg—34 to 45 inches; gray (10YR 5/1) clay loam; massive; friable; many coarse prominent strong brown (7.5YR 5/6) masses that have accumulated iron and are in the matrix; slightly alkaline; gradual wavy boundary.

Cg—45 to 60 inches; gray (10YR 5/1) stratified loam, silt loam, silty clay loam, and sandy loam; massive; friable; many coarse distinct and prominent yellowish brown (10YR 5/4 and 5/6) masses that have accumulated iron and are in the matrix; slightly effervescent; slightly alkaline.

Range in Characteristics

Thickness of the solum: 20 to 60 inches
Thickness of the mollic epipedon: 10 to 24 inches
Depth to carbonates: 22 to more than 80 inches

Ap or A horizon:
Hue—10YR, 2.5Y, or N
Value—2, 2.5, or 3
Chroma—0 to 2
Texture—silty clay loam
Reaction—slightly acid to slightly alkaline
Content of rock fragments—0 to 5 percent

Bg horizon:
Hue—10YR to 5Y or N
Value—3 to 5
Chroma—0 to 2
Texture—silty clay loam, clay loam, silt loam, or loam
Reaction—slightly acid to moderately alkaline
Content of rock fragments—0 to 5 percent

BCg or BC horizon:
Hue—10YR to 5Y or N
Value—3 to 6
Chroma—0 to 4
Texture—silty clay loam, clay loam, silt loam, or loam
Reaction—neutral to moderately alkaline
Content of rock fragments—0 to 14 percent

Cg or C horizon:
Hue—10YR to 5Y
Value—3 to 6
Chroma—1 to 4
Texture—stratified silty clay loam, clay loam, sandy loam, loam, or silt loam or the gravelly analogs of these textures
Reaction—neutral to moderately alkaline
Content of rock fragments—0 to 34 percent

Spickert Series

Taxonomic classification: Fine-silty, mixed, active, mesic Typic Fragiudults

Taxadjunct features: The Spickert soils in this survey area do not have a subhorizon with a fragipan that has vertical streaks having a mean horizontal dimension of 4 inches or more. This difference, however, does not affect the usefulness or behavior of the soils. These soils are classified as fine-silty, mixed, active, mesic Fragiaquic Hapludults.

Typical Pedon for the County

Spickert silt loam, on a slope of 5 percent, in an idle field; 1,990 feet west and 445 feet south of the northeast corner of sec. 34, T. 10 N., R. 4 E., Bartholomew County, Indiana; about 3.5 miles northeast of Taggart; USGS Nineveh, Indiana, topographic quadrangle; lat. 39 degrees 16 minutes 09 seconds N. and long. 86 degrees 04 minutes 18

seconds W., NAD 27; UTM Zone 16, 580069 Easting and 4347088 Northing, NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine and medium roots; very strongly acid; clear smooth boundary.

Bt1—8 to 16 inches; yellowish brown (10YR 5/6) silt loam; moderate fine subangular blocky structure; friable; common fine and medium roots; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; few fine black (10YR 2/1) iron and manganese oxide concretions; very strongly acid; clear wavy boundary.

Bt2—16 to 21 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; firm; common fine and medium roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine black (10YR 2/1) iron and manganese oxide concretions; extremely acid; clear wavy boundary.

Bt3—21 to 36 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; common fine and medium roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine distinct brown (10YR 5/3 and 7.5YR 4/4) masses that have accumulated iron and are in the matrix; common fine black (10YR 2/1) iron and manganese oxide concretions; extremely acid; clear wavy boundary.

2Btx—36 to 57 inches; yellowish brown (10YR 5/6) silt loam; moderate medium and coarse prismatic structure parting to moderate medium subangular blocky; very firm; few fine roots between peds; common fine vesicular pores; common prominent yellowish brown (10YR 5/4) clay films on faces of peds; common fine black (10YR 2/1) iron and manganese oxide concretions; 3 percent channers; 40 percent brittle; extremely acid; gradual wavy boundary.

2Bt—57 to 74 inches; yellowish brown (10YR 5/6) silty clay loam; weak medium and coarse subangular blocky structure; firm; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; 12 percent channers; extremely acid; gradual wavy boundary.

2R—74 to 80 inches; fractured, very strongly cemented siltstone bedrock.

Range in Characteristics

Thickness of the loess: 20 to 40 inches

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

Depth to a layer that has fragic soil properties: 12 to 45 inches

Depth to bedrock (lithic contact): 60 to 90 inches

Ap horizon:
- Hue—10YR
- Value—4 to 6
- Chroma—3 to 6
- Texture—silt loam
- Reaction—extremely acid to neutral

A horizon (where present):
- Thickness—2 to 4 inches
- Hue—10YR
- Value—3 or 4
- Chroma—2 or 3
- Texture—silt loam
- Reaction—extremely acid or very strongly acid

Bt horizon:
- Hue—7.5YR or 10YR
- Value—4 or 5
- Chroma—4 to 8
- Texture—silt loam or silty clay loam
- Reaction—commonly extremely acid; ranges to moderately acid

2Btx horizon:
- Hue—10YR
- Value—4 to 6
- Chroma—4 to 6
- Texture—silt loam or silty clay loam
- Reaction—extremely acid or very strongly acid
- Content of rock fragments—1 to 14 percent channers

2Bt, 2BC, or 2CB horizon:
- Hue—10YR or 2.5Y
- Value—5 or 6
- Chroma—3 to 6
- Texture—silt loam or silty clay loam or the channery or very channery analogs of these textures
- Reaction—extremely acid or very strongly acid
- Content of rock fragments—10 to 50 percent channers

Steff Series

Taxonomic classification: Fine-silty, mixed, active, mesic Fluvaquentic Dystrudepts

Taxadjunct features: The Steff soils in this survey area have less clay in the particle-size control section than is defined as the range for the series. This difference, however, does not affect the usefulness or behavior of the soils. These soils are classified

as coarse-silty, mixed, active, mesic Fluvaquentic Dystrudepts.

Typical Pedon for the County

Steff silt loam, on a slope of 1 percent, in a cultivated field; 150 feet west and 2,216 feet north of the southeast corner of sec. 11, T. 7 N., R. 4 E., Bartholomew County, Indiana; about 0.25 mile south of Waymansville; USGS Waymansville, Indiana, topographic quadrangle; lat. 39 degrees 03 minutes 26 seconds N. and long. 86 degrees 02 minutes 40 seconds W., NAD 27; UTM Zone 16, 582663 Easting and 4323567 Northing, NAD 83.

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

Bw1—7 to 15 inches; yellowish brown (10YR 5/4) silt loam; weak very coarse prismatic structure; friable; common very fine and fine roots; common fine faint brown (10YR 5/3) and few distinct grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.

Bw2—15 to 21 inches; yellowish brown (10YR 5/4) silt loam; weak coarse subangular blocky structure; friable; few very fine roots; few distinct dark yellowish brown (10YR 4/4) organic coatings in pores; common faint dark yellowish brown (10YR 4/4) masses that have accumulated iron and are in the matrix; few fine rounded iron and manganese oxide concretions; common medium distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; strongly acid; clear smooth boundary.

BC—21 to 41 inches; brown (10YR 5/3) silt loam; weak very coarse subangular blocky structure; friable; few very fine roots; few distinct dark yellowish brown (10YR 4/4) organic coatings in pores; common distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; common fine rounded iron and manganese oxide concretions; many medium faint light brownish gray (10YR 6/2 and 2.5Y 6/2) iron depletions in the matrix; strongly acid; clear smooth boundary.

Cg—41 to 60 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/8) and distinct dark yellowish brown (10YR 4/4) masses that have accumulated iron and are in the matrix; strongly acid.

Range in Characteristics

Depth to the base of the cambic horizon: 24 to 50 inches

Ap or A horizon:
- Hue—10YR
- Value—4 or 5
- Chroma—3 or 4
- Texture—silt loam
- Reaction—very strongly acid to neutral

Bw or Bg horizon:
- Hue—7.5YR or 10YR
- Value—5 or 6
- Chroma—2 to 6
- Texture—silt loam
- Reaction—commonly very strongly acid or strongly acid; ranges to slightly acid in the upper part

C or Cg horizon:
- Hue—10YR or 2.5Y
- Value—5 or 6
- Chroma—2 to 6
- Texture—silt loam; strata of sandy loam or loam below a depth of 50 inches in some pedons
- Reaction—very strongly acid or strongly acid

Stendal Series

Taxonomic classification: Fine-silty, mixed, active, acid, mesic Fluventic Endoaquepts

Typical Pedon for the Series

Stendal silt loam, on a slope of 0.5 percent, in a cultivated field; 1,400 feet north and 395 feet west of the southeast corner of sec. 29, T. 3 N., R. 7 E., Scott County, Indiana; about 0.75 mile southeast of Scottsburg; USGS Scottsburg, Indiana, topographic quadrangle; lat. 38 degrees 40 minutes 03 seconds N. and long. 85 degrees 45 minutes 27 seconds W., NAD 27; UTM zone 16, 608096 Easting and 4280618 Northing, NAD 83.

Ap—0 to 8 inches; yellowish brown (10YR 5/4) silt loam, very pale brown (10YR 7/4) dry; weak medium subangular blocky structure parting to moderate medium granular; friable; common very fine roots; slightly acid; abrupt smooth boundary.

Bw—8 to 17 inches; light yellowish brown (10YR 6/4) silt loam; weak coarse prismatic structure; friable; common very fine roots; common distinct yellowish brown (10YR 5/4) organic coatings on faces of peds; common fine prominent brownish yellow (10YR 6/8) masses that have accumulated iron and are in the matrix; few fine rounded black (10YR 2/1) iron and manganese oxide concretions; many medium distinct light brownish

gray (2.5Y 6/2) iron depletions in the matrix; very strongly acid; gradual wavy boundary.

Bg—17 to 40 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse prismatic structure; friable; few very fine roots; few distinct yellowish brown (10YR 5/4) organic coatings on vertical faces of peds; many medium distinct light yellowish brown (10YR 6/4) and common prominent yellowish brown (10YR 5/8) masses that have accumulated iron and are in the matrix; common fine rounded and few medium irregular iron and manganese oxide concretions; very strongly acid; gradual smooth boundary.

Cg—40 to 60 inches; light brownish gray (2.5Y 6/2) silt loam; massive; firm; many medium prominent strong brown (7.5YR 5/8) and common distinct light yellowish brown (10YR 6/4) masses that have accumulated iron and are in the matrix; common medium irregular and few medium irregular iron and manganese oxide concretions; very strongly acid.

Range in Characteristics

Depth to the base of the cambic horizon: 24 to 48 inches

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—very strongly acid to neutral

A horizon (where present):
Thickness—1 to 3 inches
Hue—10YR
Value—3 or 4
Chroma—1
Texture—silt loam
Reaction—very strongly acid or strongly acid

Bw or Bg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 6; redoximorphic depletions present
Texture—silt loam or silty clay loam
Reaction—very strongly acid or strongly acid

Cg or C horizon:
Hue—10YR or 2.5Y
Value—4 to 7
Chroma—1 to 6; redoximorphic depletions present
Texture—silt loam or silty clay loam; strata of sandy loam, loam, or fine sandy loam below a depth of 40 inches
Reaction—very strongly acid or strongly acid

Stonehead Series

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

Typical Pedon for the Series

Stonehead silt loam, on a convex, southwest-facing slope of 10 percent, in an idle field; 230 feet south and 1,020 feet east of the center of sec. 23, T. 5 N., R. 4 E., Jackson County, Indiana; about 1 mile south of Brownstown; USGS Vallonia, Indiana, topographic quadrangle; lat. 38 degrees 51 minutes 29 seconds N. and long. 86 degrees 02 minutes 38 seconds W., NAD 27; UTM Zone 16, 582958 Easting and 4301465 Northing, NAD 83.

Ap—0 to 5 inches; yellowish brown (10YR 5/4) silt loam, light yellowish brown (10YR 6/4) dry; moderate fine granular structure; friable; slightly acid; abrupt smooth boundary.

Bt1—5 to 11 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; firm; common distinct strong brown (7.5YR 5/6) clay films on faces of peds; many yellowish brown (10YR 5/4) wormcasts; strongly acid; clear wavy boundary.

Bt2—11 to 19 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; many distinct dark yellowish brown (10YR 4/6) clay films on faces of peds; few prominent very pale brown (10YR 7/3) silt coatings on faces of peds; very strongly acid; clear wavy boundary.

Bt3—19 to 24 inches; brown (7.5YR 4/4) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; many distinct yellowish brown (10YR 5/4) clay films on faces of peds; many prominent very pale brown (10YR 7/3) silt coatings on faces of peds; common fine distinct strong brown (7.5YR 5/6) masses that have accumulated iron and are in the matrix; very strongly acid; clear wavy boundary.

Bt4—24 to 30 inches; dark yellowish brown (10YR 4/6) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; many distinct pale brown (10YR 6/3) clay films on faces of peds; common fine faint strong brown (7.5YR 5/6) masses that have accumulated iron and are in the matrix; common fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; very strongly acid; clear wavy boundary.

2Bt5—30 to 39 inches; red (2.5YR 4/6) silty clay; moderate fine and medium angular blocky and

subangular blocky structure; very firm; many prominent light olive gray (5Y 6/2) clay films on faces of peds and gray (10YR 5/1) clay films in root channels; many fine prominent light olive gray (5Y 6/2) iron depletions in the matrix; 2 percent gravel (ironstone); very strongly acid; gradual wavy boundary.

2Bt6—39 to 46 inches; yellowish red (5YR 5/6) silty clay; weak thick platy structure parting to moderate fine angular blocky; very firm; many prominent light olive gray (5Y 6/2) clay films on faces of peds and light brownish gray (10YR 6/2) clay films in root channels; common fine faint yellowish red (5YR 4/6) masses that have accumulated iron and are in the matrix; many fine prominent light olive gray (5Y 6/2) iron depletions in the matrix; 2 percent gravel (ironstone); strongly acid; gradual wavy boundary.

2BC1—46 to 55 inches; light yellowish brown (2.5Y 6/4) and yellowish brown (10YR 5/4) parachannery silty clay loam; weak thick platy structure parting to weak fine angular blocky; very firm; common fine prominent strong brown (7.5YR 5/6) masses that have accumulated iron and are in the matrix; many fine distinct light olive gray (5Y 6/2) and prominent greenish gray (5GY 6/1) iron depletions in the matrix; 20 percent parachanners; 2 percent gravel (ironstone); strongly acid; gradual wavy boundary.

2BC2—55 to 65 inches; light olive brown (2.5Y 5/4) extremely parachannery silty clay loam; moderate thick platy structure parting to weak fine subangular blocky; very firm; many fine prominent greenish gray (5G 6/1) iron depletions in the matrix; 60 percent parachanners up to 6 inches in length; 10 percent gravel (ironstone); strongly acid; gradual wavy boundary.

2Cr—65 to 80 inches; olive (5Y 5/4) weakly cemented shale; many medium prominent greenish gray (5G 6/1) coatings between fragments; 10 percent gravel (ironstone); slightly acid.

Range in Characteristics

Thickness of the loess: 25 to 40 inches; less than 25 inches in pedons in gullied areas

Depth to the base of the argillic horizon: 40 to 66 inches

Depth to bedrock (paralithic contact): 44 to 75 inches

Ap horizon:
- Hue—10YR
- Value—4 to 6
- Chroma—3 to 6
- Texture—silt loam
- Reaction—very strongly acid to neutral

A horizon (where present):
- Thickness—2 to 5 inches
- Hue—10YR
- Value—3 or 4
- Chroma—2 or 3
- Texture—silt loam
- Reaction—very strongly acid

Bt horizon:
- Hue—7.5YR or 10YR
- Value—4 or 5
- Chroma—4 to 8
- Texture—silt loam or silty clay loam
- Reaction—extremely acid to strongly acid

2Bt horizon:
- Hue—2.5YR to 7.5YR in the upper part; 10YR or 2.5Y in the lower part
- Value—4 to 6
- Chroma—4 to 8; redoximorphic depletions present
- Texture—silty clay, silty clay loam, or clay or the parachannery analogs of these textures
- Reaction—very strongly acid or strongly acid
- Content of rock fragments—0 to 3 percent ironstone gravel and cobbles
- Content of pararock fragments—0 to 20 percent parachanners

2BC or CB horizon:
- Hue—10YR or 2.5Y
- Value—4 to 6
- Chroma—4 to 6
- Texture—parachannery to extremely parachannery analogs of silty clay loam
- Reaction—very strongly acid or strongly acid
- Content of rock fragments—0 to 10 percent ironstone gravel and cobbles
- Content of pararock fragments—20 to 70 percent parachanners

2Cr horizon:
- Hue—10YR to 5Y
- Value—5 or 6
- Chroma—3 or 4
- Reaction—very strongly acid to slightly acid

Stonelick Series

Taxonomic classification: Coarse-loamy, mixed, superactive, calcareous, mesic Typic Udifluvents

Typical Pedon for the County

Stonelick fine sandy loam, on a slope of 1 percent, in a cultivated field on the flood plain of the East Fork of the White River; 2,370 feet west and 2,170 feet south of the northeast corner of sec. 28, T. 8 N., R. 6 E.,

Bartholomew County, Indiana; about 1.5 miles east of Waynesville; USGS Azalia, Indiana, topographic quadrangle; lat. 39 degrees 11 minutes 55.2 seconds N. and 85 degrees 58 minutes 02.7 seconds W., NAD 27; UTM Zone 16, 589163 Easting and 4339337 Northing, NAD 83.

Ap—0 to 10 inches; brown (10YR 4/3) fine sandy loam, pale brown (10YR 6/3) dry; moderate medium granular structure; very friable; slightly effervescent; slightly alkaline; abrupt smooth boundary.

C1—10 to 23 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure; many faint brown (10YR 4/3) organic coatings on faces of peds; slightly effervescent; moderately alkaline; clear wavy boundary.

C2—23 to 34 inches; brown (10YR 5/3) sandy loam; weak coarse subangular blocky structure; very friable; few small snail shells; slightly effervescent; moderately alkaline; clear wavy boundary.

C3—34 to 60 inches; pale brown (10YR 6/3) sand; single grain; loose; strongly effervescent; slightly alkaline.

Range in Characteristics

Content of rock fragments: 0 to 14 percent throughout the series control section

Occurrence of carbonates: Throughout the profile

Ap or A horizon:
- Hue—10YR
- Value—3 to 5
- Chroma—3 or 4
- Texture—fine sandy loam
- Reaction—slightly alkaline or moderately alkaline

C horizon:
- Hue—7.5YR or 10YR
- Value—4 to 6
- Chroma—2 to 4
- Texture—stratified loam, sandy loam, silt loam, fine sandy loam, sand, or loamy sand
- Reaction—slightly alkaline or moderately alkaline

Treaty Series

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

Typical Pedon for the Series

Treaty silty clay loam, on a planar slope of less than 1 percent, in a cultivated field; 700 feet east and 1,950 feet north of the southwest corner of sec. 35, T. 20 N., R. 5 W., Montgomery County, Indiana; about 2.75 miles west of Cherry Grove; USGS Linden, Indiana, topographic quadrangle; lat. 40 degrees 07 minutes 54.8 seconds N. and long. 86 degrees 57 minutes 31 seconds W., NAD 27; UTM Zone 16, 503526 Easting and 4442399 Northing, NAD 83.

Ap—0 to 10 inches; black (10YR 2/1) silty clay loam, very dark grayish brown (10YR 3/2) dry; moderate fine granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.

A—10 to 14 inches; black (10YR 2/1) silty clay loam, very dark gray (10YR 3/1) dry; weak fine subangular blocky structure parting to weak fine granular; firm; slightly acid; clear smooth boundary.

Btg1—14 to 22 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common fine pores; many distinct olive gray (5Y 5/2) clay films on faces of peds and along surfaces of pores; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine distinct light olive brown (2.5Y 5/4) masses that have accumulated iron and are in the matrix; neutral; clear wavy boundary.

Btg2—22 to 36 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; common fine pores; many distinct grayish brown (2.5Y 5/2) clay films on faces of peds and along surfaces of pores; few fine distinct light olive brown (2.5Y 5/4) masses that have accumulated iron and are in the matrix; few black (10YR 2/1) iron and manganese oxide concretions; neutral; clear wavy boundary.

2Btg3—36 to 59 inches; gray (10YR 5/1) loam; weak medium subangular blocky structure; firm; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; 5 percent rock fragments; neutral; clear wavy boundary.

2C—59 to 70 inches; yellowish brown (10YR 5/4) loam; massive; firm; common medium distinct gray (10YR 5/1) iron depletions in the matrix; 5 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

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

Thickness of the loess: 24 to 40 inches

Thickness of the mollic epipedon: 10 to 18 inches

Ap or A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture—silt loam or silty clay loam
Reaction—moderately acid to neutral

Btg horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—1 or 2
Texture—silty clay loam
Reaction—slightly acid to slightly alkaline

2Btg or 2Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—loam, clay loam, or silty clay loam
Reaction—neutral to moderately alkaline
Content of rock fragments—2 to 10 percent

2C or 2Cg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 to 4
Texture—loam or fine sandy loam
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—2 to 10 percent

Wakeland Series

Taxonomic classification: Coarse-silty, mixed, superactive, nonacid, mesic Aeric Fluvaquents

Typical Pedon for the Series

Wakeland silt loam, in a nearly level area in a cultivated field; 2,000 feet southwest of the east corner and then 1,000 feet northwest of the southeast boundary of donation 187, T. 4 N., R. 9 W., Knox County, Indiana; 1.5 miles north of Bruceville; USGS Oaktown, Indiana, topographic quadrangle; lat. 38 degrees 46 minutes 48 seconds N. and long. 87 degrees 24 minutes 21 seconds W., NAD 27; UTM Zone 16, 464751 Easting and 4292227 Northing, NAD 83.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; weak medium granular structure; friable; many fine roots; neutral; abrupt smooth boundary.

Cg1—7 to 23 inches; grayish brown (10YR 5/2) silt loam; weak medium granular structure; friable; common fine roots; many fine faint brown (10YR 5/3) masses that have accumulated iron and are in the matrix; neutral; clear wavy boundary.

Cg2—23 to 29 inches; grayish brown (10YR 5/2) silt loam; weak fine granular structure; friable; common fine roots; common medium distinct yellowish brown (10YR 5/4) masses that have accumulated iron and are in the matrix; few fine faint gray (10YR 5/1) iron depletions in the matrix; neutral; gradual wavy boundary.

Cg3—29 to 60 inches; grayish brown (10YR 5/2) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; slightly acid.

Range in Characteristics

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture—silt loam
Reaction—moderately acid to neutral

A horizon (where present):
Thickness—1 to 3 inches
Hue—10YR
Value—3 or 4
Chroma—1
Texture—silt loam
Reaction—moderately acid to neutral

C or Cg horizon:
Hue—10YR, 7.5YR, or 2.5Y
Value—4 to 7
Chroma—1 to 6
Texture—silt loam; stratified silt loam or loam or thin strata of fine sandy loam and sandy loam below a depth of 40 inches
Reaction—moderately acid to neutral

Wawaka Series

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

Typical Pedon

Wawaka silt loam, on a slope of 4 percent, in an idle field; 75 feet east and 100 feet north of the southwest corner of sec. 32, T. 11 N., R. 5 E., Johnson County, Indiana; about 2 miles west of Edinburgh; USGS Nineveh, Indiana, topographic quadrangle; lat. 39 degrees 20 minutes 48 seconds N. and long. 86 degrees 00 minutes 31 seconds W., NAD 27; UTM Zone 16, 585426 Easting and 4355722 Northing, NAD 83.

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale

brown (10YR 6/3) dry; moderate fine and medium granular structure; friable; many very fine and fine roots; slightly acid; abrupt smooth boundary.

2Bt1—7 to 23 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; common very fine and fine roots; many very fine and fine interstitial and tubular pores; common distinct yellowish brown (10YR 5/4) clay films on faces of peds and in pores; 2 percent gravel; strongly acid; clear smooth boundary.

2Bt2—23 to 37 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; firm; common very fine and fine roots; many very fine and fine interstitial and tubular pores; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds and in pores; few fine rounded black (10YR 2/1) iron and manganese oxide concretions throughout; common distinct yellowish brown (10YR 5/4) clay depletions on faces of peds and in pores; 2 percent gravel; strongly acid; clear smooth boundary.

2Bt3—37 to 57 inches; yellowish brown (10YR 5/6) clay loam; moderate medium and coarse subangular blocky structure; firm; common very fine and fine roots; many very fine and fine interstitial and tubular pores; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds and in pores; common medium distinct yellowish brown (10YR 5/8) masses that have accumulated iron and are in the matrix; common fine and medium rounded black (10YR 2/1) iron and manganese oxide concretions throughout; few fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 5 percent gravel; strongly acid; abrupt wavy boundary.

2CB—57 to 66 inches; yellowish brown (10YR 5/4) loam; weak very coarse subangular blocky structure; friable; few very fine and fine tubular pores; 10 percent rock fragments; very slightly effervescent; slightly alkaline; abrupt smooth boundary.

3Btb1—66 to 78 inches; strong brown (7.5YR 5/6) sandy clay loam; strong medium and coarse subangular blocky structure; firm; few very fine and fine interstitial pores; many distinct strong brown (7.5YR 4/6) clay films on faces of peds; slightly acid; gradual smooth boundary.

3Btb2—78 to 97 inches; strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; firm; few fine vesicular pores; common distinct strong brown (7.5YR 4/6) clay films on faces of peds; slightly acid; clear smooth boundary.

3Btb3—97 to 110 inches; strong brown (7.5YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable; few very fine and fine interstitial and tubular pores; few distinct strong brown (7.5YR 4/6) clay films on faces of peds; moderately acid; clear wavy boundary.

3BCt—110 to 129 inches; strong brown (7.5YR 5/6) sandy clay loam with thin strata of loam; weak coarse subangular blocky structure; friable; few very fine and fine interstitial and tubular pores; many distinct strong brown (7.5YR 4/6) clay bridges between sand grains; moderately acid; clear wavy boundary.

3CB—129 to 138 inches; 70 percent strong brown (7.5YR 5/6) and 30 percent yellowish brown (10YR 5/6) sandy loam; massive; friable; common distinct strong brown (7.5YR 4/6) clay bridges between sand grains; moderately acid.

Range in Characteristics

Thickness of the loess: Less than 20 inches

Depth to the base of the argillic horizon: 32 to 52 inches

Depth to carbonates: 30 to 60 inches

Ap or A horizon:
- Hue—10YR
- Value—3 or 4
- Chroma—2 or 3
- Texture—silt loam or loam
- Reaction—strongly acid to neutral
- Content of rock fragments—0 to 3 percent gravel

Bt or 2Bt horizon:
- Hue—7.5YR or 10YR
- Value—3 to 5
- Chroma—3 to 6
- Texture—silty clay loam or clay loam
- Reaction—strongly acid to neutral
- Content of rock fragments—0 to 10 percent gravel

2BC or 2CB horizon:
- Hue—10YR
- Value—5
- Chroma—3 or 4
- Texture—loam
- Reaction—neutral to moderately alkaline
- Content of rock fragments—5 to 14 percent gravel

3Btb, 3BCt, or 3CB horizon:
- Hue—7.5YR or 10YR
- Value—4 or 5
- Chroma—4 to 6

Texture—sandy clay loam, sandy loam, or loam or the gravelly analogs of these textures
Reaction—strongly acid to slightly acid
Content of rock fragments—0 to 25 percent gravel

Wellrock Series

Taxonomic classification: Fine-silty, mixed, active, mesic Ultic Hapludalfs

Typical Pedon for the Series

Wellrock silt loam, on a convex slope of 12 percent, in a forested area; 875 feet east and 75 feet north of the center of sec. 6, T. 8 N., R. 3 E., Brown County, Indiana; about 3.5 miles south of Nashville; USGS Nashville, Indiana, topographic quadrangle; lat. 39 degrees 09 minutes 31 seconds N. and long. 86 degrees 14 minutes 05 seconds W., NAD 27; UTM Zone 16, 566118 Easting and 4334663 Northing, NAD 83.

Oi—0 to 1 inch; roots and partially decomposed leaves from mixed deciduous trees.

A—1 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many fine and medium roots; very strongly acid; clear smooth boundary.

EB—4 to 8 inches; yellowish brown (10RY 5/4) silt loam; moderate medium granular structure; friable; many fine and medium roots; extremely acid; clear wavy boundary.

Bt1—8 to 20 inches; yellowish brown (10YR 5/6) silty clay loam; weak medium subangular blocky structure; firm; common fine and medium roots; common distinct brown (7.5YR 4/4) clay films on faces of peds; very strongly acid; clear smooth boundary.

Bt2—20 to 28 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; common fine and medium roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; very strongly acid; clear smooth boundary.

2Bt3—28 to 36 inches; yellowish brown (10YR 5/6) silty clay loam; moderate coarse prismatic structure parting to moderate medium angular blocky; firm; few fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; common pale brown (10YR 6/3) silt coatings on faces of peds; 3 percent parachanners; extremely acid; clear wavy boundary.

2Bt4—36 to 52 inches; yellowish brown (10YR 5/4) extremely parachannery silt loam; common medium distinct light brownish gray (2.5Y 6/2) mottles; weak fine subangular blocky structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; 60 percent parachanners; very strongly acid; clear smooth boundary.

2Cr—52 to 60 inches; yellowish brown (10YR 5/4) fractured, moderately cemented siltstone interbedded with thin layers of weakly cemented shale and very strongly cemented siltstone.

Range in Characteristics

Thickness of the loess: Less than 22 inches to 38 inches
Depth to the base of the argillic horizon: 38 to 58 inches
Depth to bedrock (paralithic contact): 40 to 60 inches

A horizon:
Thickness—1 to 5 inches
Hue—10YR
Value—3 or 4
Chroma—2 or 3
Texture—silt loam
Reaction—very strongly acid or strongly acid

Ap horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture—silt loam
Reaction—very strongly acid to neutral

EB, BE, or E/A horizon:
Hue—10YR
Value—5 or 6
Chroma—4 to 6
Texture—silt loam
Reaction—commonly extremely acid or very strongly acid; ranges to slightly acid in the upper part

Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 8
Texture—silt loam or silty clay loam
Reaction—extremely acid or very strongly acid

2Bt or 2BC horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 6
Texture—silt loam or silty clay loam or the parachannery to extremely parachannery analogs of these textures
Reaction—extremely acid or very strongly acid

Content of pararock fragments—10 to 65 percent parachanners

2Cr horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—3 to 6

Westland Series

Taxonomic classification: Fine-loamy, mixed, superactive, mesic Typic Argiaquolls

Typical Pedon for the County

Westland clay loam, in a nearly level area in a cultivated field; 100 feet south and 50 feet west of the northeast corner of sec. 32, T. 10 N., R. 6 E., Bartholomew County, Indiana; about 0.5 mile southwest of Clifford; USGS Edinburgh, Indiana, topographic quadrangle; lat. 39 degrees 16 minutes 28.8 seconds N. and long. 85 degrees 52 minutes 33.7 seconds W., NAD 27; UTM Zone 16, 596950 Easting and 4347865 Northing, NAD 83.

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) clay loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure parting to weak fine granular; friable; common medium roots; 3 percent rock fragments; neutral; abrupt smooth boundary.

Btg1—10 to 17 inches; gray (10YR 5/1) clay loam; moderate medium subangular blocky structure; firm; common medium roots; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 5 percent rock fragments; neutral; clear wavy boundary.

Btg2—17 to 29 inches; dark grayish brown (10YR 4/2) clay loam; moderate medium subangular blocky structure; firm; few medium roots; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 10 percent rock fragments; neutral; clear wavy boundary.

Btg3—29 to 37 inches; grayish brown (10YR 5/2) clay loam; strong medium subangular blocky structure; firm; few fine roots; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/8) masses that have accumulated iron and are in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 13 percent rock fragments; neutral; clear wavy boundary.

2BCg—37 to 47 inches; dark gray (10YR 4/1) gravelly clay loam; weak medium and coarse subangular blocky structure; firm; few fine roots; few fine prominent yellowish brown (10YR 5/8) masses that have accumulated iron and are in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 20 percent rock fragments; slightly effervescent; slightly alkaline; clear wavy boundary.

2Cg—47 to 60 inches; brown (10YR 5/3) very gravelly coarse sand; single grain; loose; 40 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the mollic epipedon: 10 to 20 inches
Depth to the base of the argillic horizon: 30 to 55 inches

Ap or A horizon:
Hue—10YR, 2.5Y, or N
Value—2, 2.5, or 3
Chroma—0 to 3
Texture—clay loam or silty clay loam
Reaction—slightly acid or neutral
Content of rock fragments—0 to 5 percent gravel

BA horizon (where present):
Hue—10YR
Value—4 or 5
Chroma—1 or 2
Texture—clay loam or silty clay loam
Reaction—slightly acid or neutral
Content of rock fragments—0 to 5 percent gravel

Btg horizon:
Hue—10YR, 2.5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—clay loam, silty clay loam, or sandy clay loam or the gravelly analogs of these textures
Reaction—slightly acid or neutral
Content of rock fragments—1 to 15 percent gravel

2Btg horizon:
Hue—10YR, 2.5Y, or N
Value—3 to 6
Chroma—0 to 2
Texture—loam, clay loam, or sandy clay loam or the gravelly or very gravelly analogs of these textures
Reaction—slightly acid to slightly alkaline
Content of rock fragments—5 to 40 percent gravel; 0 to 5 percent cobbles

2BCg or BCg horizon:
Hue—10YR, 2.5Y, or N
Value—4 to 6
Chroma—0 to 2
Texture—loam, clay loam, sandy loam, or sandy clay loam or the gravelly or very gravelly analogs of these textures
Reaction—neutral or slightly alkaline
Content of rock fragments—5 to 40 percent gravel; 0 to 5 percent cobbles

2Cg or 3Cg horizon:
Hue—10YR, 2.5Y, or N
Value—3 to 7
Chroma—0 to 4
Texture—stratified gravelly or very gravelly analogs of coarse sand or loamy coarse sand to sand
Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—20 to 50 percent; 0 to 12 percent cobbles

Whitaker Series

Taxonomic classification: Fine-loamy, mixed, active, mesic Aeric Endoaqualfs

Typical Pedon for the Series

Whitaker loam, on a slope of less than 1 percent, in a cultivated field; 1,000 feet north and 2,100 feet west of the southeast corner of sec. 11, T. 34 N., R. 3 E., Marshall County, Indiana; about 2 miles south of Bremen; USGS Bremen, Indiana, topographic quadrangle; lat. 41 degrees 24 minutes 28.6 seconds N. and long. 86 degrees 08 minutes 39.1 seconds W., NAD 27; UTM Zone 16, 571529 Easting and 4584404 Northing, NAD 83.

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; weak medium granular structure; friable; many fine roots; neutral; abrupt smooth boundary.

E—9 to 17 inches; brown (10YR 5/3) loam; moderate medium subangular blocky structure; friable; common fine roots; common medium prominent yellowish brown (10YR 5/8) masses that have accumulated iron and are in the matrix; common medium faint light brownish gray (10YR 6/2) iron depletions in the matrix; slightly acid; clear wavy boundary.

Btg1—17 to 27 inches; grayish brown (10YR 5/2) clay loam; moderate medium subangular blocky structure; firm; many distinct gray (10YR 5/1) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/8) masses that have accumulated iron and are in the matrix; common fine black (10YR 2/1) iron and manganese oxide concretions; 2 percent rock fragments; strongly acid; gradual wavy boundary.

Btg2—27 to 39 inches; grayish brown (10YR 5/2) sandy clay loam; moderate medium subangular blocky structure; firm; many distinct gray (10YR 5/1) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; common fine black (10YR 2/1) iron and manganese oxide concretions; 2 percent rock fragments; moderately acid; clear wavy boundary.

BC—39 to 48 inches; dark yellowish brown (10YR 4/4) sandy loam; weak coarse subangular blocky structure; friable; common medium distinct gray (10YR 5/1) iron depletions in the matrix; slightly acid; clear wavy boundary.

C—48 to 60 inches; brown (10YR 5/3) stratified silt loam and loam and thin strata of loamy sand; massive; friable; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 32 to 60 inches
Thickness of the silty material: Less than 20 inches
Content of rock fragments: 0 to 5 percent in the solum

Ap horizon:
Hue—10YR
Value—4 to 6
Chroma—2 or 3
Texture—loam or sandy loam
Reaction—moderately acid to neutral

E horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—loam or sandy loam
Reaction—moderately acid to neutral

Btg or 2Btg horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—loam, sandy loam, clay loam, or sandy clay loam
Reaction—strongly acid to slightly acid

BC or 2BC horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—1 to 6

Texture—loam, sandy loam, or sandy clay loam
Reaction—moderately acid to slightly alkaline

C or 2C horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—1 to 6
Texture—stratified loam, silt loam, sandy loam, fine sandy loam, or very fine sandy loam; strata of coarse sandy loam, loamy coarse sand, coarse sand, sand, loamy fine sand, or loamy sand
Reaction—slightly acid to moderately alkaline
Content of rock fragments—0 to 14 percent

Wilbur Series

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

Typical Pedon for the Series

Wilbur silt loam, in a nearly level area in a cultivated field; 2,245 feet north and 1,450 feet east of the southwest corner of donation 99, T. 1 S., R. 10 W., Gibson County, Indiana; about 0.75 mile east of Patoka; USGS Patoka, Indiana, topographic quadrangle; lat. 38 degrees 24 minutes 46 seconds N. and long. 87 degrees 34 minutes 10 seconds W., NAD 27; UTM Zone 16, 450283 Easting and 4251774 Northing, NAD 83.

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; neutral; clear smooth boundary.
Bw1—7 to 17 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine subangular blocky structure; friable; few fine roots; few fine faint brown (10YR 5/3) iron depletions in the matrix; neutral; gradual smooth boundary.
Bw2—17 to 32 inches; brown (10YR 5/3) silt loam; weak medium subangular blocky structure; friable; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
Cg—32 to 60 inches; light brownish gray (10YR 6/2) silt loam; massive; friable; many fine distinct brown (7.5YR 4/4) and common dark yellowish brown (10YR 4/4) masses that have accumulated iron and are in the matrix; neutral.

Range in Characteristics

Depth to base of the cambic horizon: 24 to 42 inches
Content of rock fragments: Less than 1 percent throughout the series control section

Ap or A horizon:
Hue—10YR
Value—4
Chroma—2 to 4
Texture—silt loam
Reaction—moderately acid to neutral

Bw horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silt loam
Reaction—moderately acid to neutral

C or Cg horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 6
Texture—silt loam; loam and thin strata of fine sandy loam or sandy loam below a depth of 40 inches
Reaction—moderately acid to neutral

Wilhite Series

Taxonomic classification: Fine, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts

Typical Pedon for the Series

Wilhite silty clay loam, on a slope of 0.5 percent, in a cultivated field; 1,380 feet south and 1,400 feet east of the northwest corner of sec. 19, T. 1 N., R. 8 W., Pike County, Indiana; about 0.5 mile north of Bowman; USGS Monroe City, Indiana, topographic quadrangle; lat. 38 degrees 30 minutes 20 seconds N. and long. 87 degrees 20 minutes 48 seconds W., NAD 27; UTM Zone 16, 469771 Easting and 4261972 Northing, NAD 83.

Ap—0 to 9 inches; dark gray (10YR 4/1) silty clay loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; firm; common fine roots; neutral; abrupt smooth boundary.
BAg—9 to 17 inches; dark gray (10YR 4/1) silty clay loam; moderate medium subangular blocky structure; firm; common fine roots; few fine distinct brown (10YR 4/3) masses that have accumulated iron and are in the matrix; moderately acid; clear smooth boundary.
Bg1—17 to 26 inches; gray (10YR 5/1) silty clay; weak medium prismatic structure parting to moderate coarse angular blocky; very firm; few fine roots; common medium distinct yellowish brown (10YR 5/4) masses that have accumulated iron and are in the matrix; krotovinas about 1.0 to 1.5 feet apart

filled with dark gray (10YR 4/1) silty clay loam; strongly acid; clear smooth boundary.

Bg2—26 to 38 inches; gray (10YR 5/1) silty clay; weak medium prismatic structure parting to moderate coarse angular blocky; very firm; few fine roots; few faint dark gray (10YR 4/1) organic coatings on faces of peds; many medium distinct dark yellowish brown (10YR 4/4) masses that have accumulated iron and are in the matrix; krotovinas about 1.0 to 1.5 feet apart filled with dark gray (10YR 4/1) silty clay loam; strongly acid; clear smooth boundary.

BCg—38 to 47 inches; dark gray (10YR 4/1) silty clay; weak coarse subangular blocky structure; very firm; common distinct gray (N 5/0) organic coatings on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; krotovinas about 1.0 to 1.5 feet apart filled with dark gray (10YR 4/1) silty clay loam; strongly acid; gradual smooth boundary.

Cg—47 to 60 inches; gray (10YR 6/1) and grayish brown (2.5Y 5/2) silty clay; massive; very firm; common medium prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; many fine and medium black (10YR 2/1) iron and manganese oxide concentrations; krotovinas about 1.0 to 1.5 feet apart filled with dark gray (10YR 4/1) silty clay loam; moderately acid.

Range in Characteristics

Depth to the base of the cambic horizon: 30 to 50 inches

Ap or A horizon:
Hue—10YR to 5Y
Value—4 or 5
Chroma—1 to 3
Texture—silty clay
Reaction—moderately acid to neutral

Bg, BAg, or BCg horizon:
Hue—10YR to 5Y or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam or silty clay
Reaction—strongly acid to neutral

Cg horizon:
Hue—10YR to 5Y or N
Value—4 to 6
Chroma—0 to 2
Texture—silty clay loam or silty clay
Reaction—moderately acid to neutral

Williamstown Series

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

Typical Pedon for the Series

Williamstown silt loam, on a convex slope of 4 percent, in a cultivated field; 1,030 feet west and 2,080 feet north of the southeast corner of sec. 23, T. 9 N., R. 8 E., Decatur County, Indiana; about 3 miles north and 1 mile west of Westport; USGS Westport, Indiana, topographic quadrangle; lat. 39 degrees 12 minutes 36.9 seconds N. and long. 85 degrees 35 minutes 52.7 seconds W., NAD 27; UTM Zone 16, 621048 Easting and 4341051 Northing, NAD 83.

Ap—0 to 9 inches; 90 percent brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry, and 10 percent yellowish brown (10YR 5/4) clay loam subsoil material; moderate medium granular structure; friable; moderately acid; abrupt smooth boundary.

2Bt1—9 to 18 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; firm; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 1 percent rock fragments; strongly acid; clear wavy boundary.

2Bt2—18 to 33 inches; yellowish brown (10YR 5/6) clay loam; moderate coarse subangular blocky structure; firm; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine black (10YR 2/1) iron and manganese oxide concretions; common medium prominent grayish brown (10YR 5/2) iron depletions in the matrix; 1 percent rock fragments; slightly acid; clear wavy boundary.

2BCt—33 to 37 inches; yellowish brown (10YR 5/6) loam; weak coarse subangular blocky structure; firm; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; 1 percent rock fragments; slightly effervescent; slightly alkaline; clear wavy boundary.

2Cd—37 to 80 inches; yellowish brown (10YR 5/4) loam; massive; very firm; common fine distinct gray (10YR 6/1) iron depletions in the matrix; 1 percent rock fragments; strongly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 20 to 40 inches

Thickness of the loess: Less than 22 inches

Depth to carbonates: 20 to 40 inches

Content of rock fragments: 10 percent or less throughout the series control section

Ap horizon:
Hue—10YR
Value—4 or 5
Chroma—2 or 3
Texture—silt loam
Reaction—strongly acid to neutral

2Bt or Bt horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture—silty clay loam or clay loam
Reaction—strongly acid to neutral

2BCt or BCt horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Texture—loam or fine sandy loam
Reaction—neutral to moderately alkaline

2Cd or Cd horizon:
Hue—10YR
Value—5 or 6
Chroma—3 or 4
Texture—loam or fine sandy loam
Reaction—slightly alkaline or moderately alkaline

Wirt Series

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

Typical Pedon for the Series

Wirt loam, in a nearly level area in a pastured field; 50 feet south and 2,085 feet east of the northwest corner of sec. 24, T. 3 N., R. 8 E., Jefferson County, Indiana; about 11 miles west and 3 miles south of Madison; USGS Kent, Indiana, topographic quadrangle; lat. 38 degrees 41 minutes 35 seconds N. and long. 85 degrees 34 minutes 57 seconds W., NAD 27; UTM Zone 16, 623277 Easting and 4283675 Northing, NAD 83.

Ap—0 to 8 inches; brown (10YR 4/3) loam, pale brown (10YR 6/3) dry; moderate medium granular structure; weak thin platy in the lower part; friable; many fine roots; neutral; clear smooth boundary.

Bw1—8 to 15 inches; brown (10YR 4/3) silt loam; common fine faint light yellowish brown (10YR 6/4) mottles; weak medium subangular blocky structure; friable; common fine roots; few distinct dark brown (10YR 3/3) organic coatings on faces of peds; neutral; gradual smooth boundary.

Bw2—15 to 22 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium subangular blocky structure; friable; few fine roots; many distinct dark brown (10YR 3/3) organic coatings on faces of peds; neutral; gradual wavy boundary.

Bw3—22 to 38 inches; dark yellowish brown (10YR 4/6) loam; few fine distinct light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; friable; many distinct dark brown (10YR 3/3) organic coatings on faces of peds; neutral; gradual wavy boundary.

C1—38 to 50 inches; dark yellowish brown (10YR 4/6) sandy loam; common fine distinct pale brown (10YR 6/3) mottles; massive; friable; 1 percent gravel; neutral; gradual wavy boundary.

C2—50 to 60 inches; dark yellowish brown (10YR 4/4) gravelly sandy loam; massive; friable; 25 percent gravel; neutral.

Range in Characteristics

Depth to the base of the cambic horizon: 24 to 48 inches

Ap or A horizon:
Hue—10YR
Value—2 to 5
Chroma—2 to 4
Texture—silt loam or loam
Reaction—moderately acid to neutral

Bw or BC horizon:
Hue—10YR
Value—3 to 5
Chroma—3 to 6
Texture—silt loam, loam, fine sandy loam, sandy loam, or very fine sandy loam
Reaction—moderately acid to neutral
Content of rock fragments—0 to 14 percent gravel

C horizon:
Hue—10YR
Value—3 to 5
Chroma—3 to 6
Texture—loam, fine sandy loam, or sandy loam or the gravelly analogs of these textures below a depth of 40 inches; strata of loamy fine sand or loamy sand or the gravelly analogs of these textures below a depth of 40 inches in some pedons
Reaction—moderately acid to neutral
Content of rock fragments—0 to 34 percent gravel

Wrays Series

Taxonomic classification: Fine-silty, mixed, active, mesic Typic Hapludults

Typical Pedon for the Series

Wrays silt loam, on a convex, northwest-facing slope of 13 percent, in a forested area; 850 feet east and 1,900 feet north of the southwest corner of sec. 35, T. 2 N., R. 6 E., Scott County, Indiana; about 2.5 miles east of New Liberty; USGS Henryville, Indiana, topographic quadrangle; lat. 38 degrees 33 minutes 59 seconds N. and long. 85 degrees 49 minutes 28 seconds W., NAD 27; UTM Zone 16, 602415 Easting and 4269321 Northing, NAD 83.

Oi—0 to 1 inch; partially decomposed leaves from mixed deciduous trees.

E/A—1 to 6 inches; 85 percent light yellowish brown (10YR 6/4) (E) and 15 percent dark grayish brown (10YR 4/2) (A) silt loam, very pale brown (10YR 8/4) and light brownish gray (10YR 6/2) dry; weak fine and medium subangular blocky structure parting to moderate medium granular; friable; many very fine and fine, common medium and coarse, and few very coarse roots; very strongly acid; gradual wavy boundary.

Bt1—6 to 12 inches; strong brown (7.5YR 5/6) silt loam; weak fine and medium subangular blocky structure; friable; common very fine and fine, common medium and coarse, and few very coarse roots throughout; few distinct strong brown (7.5YR 5/6) clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt2—12 to 25 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; firm; few very fine and fine and common medium and coarse roots between peds and few very coarse roots throughout; many distinct strong brown (7.5YR 4/6) clay films on faces of peds; very strongly acid; gradual wavy boundary.

2Bt3—25 to 34 inches; yellowish brown (10YR 5/6) silty clay loam; weak medium subangular blocky structure; friable; few very fine and fine roots and common medium roots between peds; many prominent strong brown (7.5YR 5/6) and common distinct pale brown (10YR 6/3) clay films on faces of peds; 10 percent channers; very strongly acid; clear wavy boundary.

2CB—34 to 44 inches; light yellowish brown (2.5Y 6/4) extremely channery silt loam; moderate very thick platy structure; firm; few very fine and fine roots between peds; common distinct light brownish gray (2.5Y 6/2) clay films on rock fragments; common prominent strong brown (7.5YR 4/6) iron stains on faces of peds; 65 percent channers; very strongly acid; clear wavy boundary.

2R—44 to 60 inches; fractured, very strongly cemented siltstone bedrock.

Range in Characteristics

Thickness of the loess: 22 to 36 inches

Depth to the base of the argillic horizon: 30 to 50 inches

Depth to bedrock (lithic contact): 40 to 60 inches

A part of E/A horizon:
- Hue—10YR
- Value—3 or 4
- Chroma—2 or 3
- Texture—silt loam
- Reaction—very strongly acid or strongly acid

E part of E/A horizon:
- Hue—10YR
- Value—5 or 6
- Chroma—4 to 6
- Texture—silt loam
- Reaction—very strongly acid or strongly acid

Ap horizon (where present):
- Hue—10YR
- Value—4 or 5
- Chroma—3 or 4
- Texture—silt loam
- Reaction—very strongly acid to neutral

Bt horizon:
- Hue—7.5YR or 10YR
- Value—4 to 6
- Chroma—4 to 8
- Texture—silt loam or silty clay loam
- Reaction—commonly very strongly acid or strongly acid; ranges to slightly acid in the upper part

2Bt horizon:
- Hue—7.5YR or 10YR
- Value—4 to 6
- Chroma—4 to 8
- Texture—silt loam or silty clay loam or the channery analogs of these textures
- Reaction—extremely acid or very strongly acid
- Content of rock fragments—2 to 25 percent channers

2CB or 2BC horizon:
- Hue—7.5YR to 2.5Y
- Value—4 to 6
- Chroma—4 to 8

Texture—channery to extremely channery silt loam or silty clay loam
Reaction—extremely acid or very strongly acid
Content of rock fragments—20 to 65 percent channers

Xenia Series

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

Typical Pedon for the Series

Xenia silt loam (fig. 36), on a slope of 3 percent, in a cultivated field; 800 feet south and 2,400 feet east of the northwest corner of sec. 13, T. 14 N., R. 4 W., Putnam County, Indiana; about 2 miles east of Greencastle; USGS Greencastle, Indiana, topographic quadrangle; lat. 39 degrees 39 minutes 29.4 seconds N. and long. 86 degrees 48 minutes 16.9 seconds W., NAD 27; UTM Zone 16, 516753 Easting and 4389844 Northing, NAD 83.

Ap—0 to 10 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; many fine roots; many fine pores; slightly acid; abrupt smooth boundary.

Bt1—10 to 18 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; many fine roots; many fine pores; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—18 to 30 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; strongly acid; clear wavy boundary.

2Bt3—30 to 50 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; firm; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 3 percent rock fragments; neutral; clear wavy boundary.

2BCt—50 to 58 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; firm; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few medium distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 3 percent rock fragments; slightly effervescent; moderately alkaline; clear wavy boundary.

2Cd1—58 to 72 inches; yellowish brown (10YR 5/4) loam; massive; very firm; few medium distinct yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; few medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 3 percent rock fragments; strongly effervescent; moderately alkaline; clear wavy boundary.

2Cd2—72 to 80 inches; yellowish brown (10YR 5/4) loam; massive; very firm; few medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 3 percent rock fragments; slightly effervescent; moderately alkaline.

Range in Characteristics

Depth to the base of the argillic horizon: 40 to 60 inches
Thickness of the loess: 22 to 40 inches
Depth to carbonates: 40 to 60 inches

Ap horizon:
Hue—10YR
Value—4
Chroma—2 to 4
Texture—silt loam
Reaction—moderately acid to neutral

Bt horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—3 to 6
Texture—silty clay loam
Reaction—strongly acid to neutral

2Bt horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—loam or clay loam
Reaction—moderately acid to neutral
Content of rock fragments—2 to 8 percent

2BCt or 2BC horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 or 4
Texture—loam or clay loam
Reaction—neutral to moderately alkaline
Content of rock fragments—2 to 8 percent

2Cd horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—3 or 4
Texture—loam or fine sandy loam

Reaction—slightly alkaline or moderately alkaline
Content of rock fragments—2 to 10 percent

Zipp Series

Taxonomic classification: Fine, mixed, active, nonacid, mesic Typic Endoaquepts

Typical Pedon for the Series

Zipp silty clay loam, in a nearly level area in a cultivated field; 200 feet north and 1,200 feet east of the southwest corner of sec. 28, T. 6 S., R. 8 W., Warrick County, Indiana; about 4.5 miles northeast of the town of Newburgh; USGS Yankeetown, Indiana, topographic quadrangle; lat. 37 degrees 57 minutes 42 seconds N. and long. 87 degrees 19 minutes 05 seconds W., NAD 27; UTM Zone 16, 472061 Easting and 4201615 Northing, NAD 83.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silty clay loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; firm; neutral; abrupt smooth boundary.

Bg1—10 to 15 inches; dark gray (5Y 4/1) silty clay loam; moderate fine angular blocky structure; firm; many faint dark gray (5Y 4/1) pressure faces on peds; many fine prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; neutral; clear wavy boundary.

Bg2—15 to 35 inches; gray (5Y 5/1) silty clay loam; moderate medium prismatic structure parting to strong fine angular blocky; firm; many faint dark gray (5Y 4/1) pressure faces on peds; many fine prominent yellowish brown (10YR 5/6) and few fine prominent light olive brown (2.5Y 5/4) masses that have accumulated iron and are in the matrix; neutral; clear wavy boundary.

Bg3—35 to 45 inches; dark gray (5Y 4/1) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; many fine prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; neutral; clear wavy boundary.

Cg—45 to 60 inches; gray (10YR 6/1) silty clay; massive; firm; many fine prominent yellowish brown (10YR 5/6) masses that have accumulated iron and are in the matrix; neutral.

Range in Characteristics

Depth to the base of the cambic horizon: 36 to 48 inches

Ap or A horizon:
Hue—10YR
Value—4
Chroma—1 or 2
Texture—silty clay loam
Reaction—moderately acid to neutral

Bg horizon:
Hue—10YR to 5Y or N
Value—4 to 6
Chroma—0 or 1
Texture—silty clay loam or silty clay
Reaction—moderately acid to neutral

Cg or C horizon:
Hue—10YR to 5Y or N
Value—4 to 7
Chroma—0 to 6
Texture—silty clay loam or silty clay; thin strata of silt loam in some pedons
Reaction—neutral to moderately alkaline

Formation of the Soils

This section describes the major factors of soil formation that have affected the soils in Bartholomew County. The processes of soil formation also are described.

Factors of Soil Formation

Soils form through processes acting upon deposits of plant and geologic materials. The characteristics of a soil at any given point are determined by *time,* the total duration the soil-forming factors have acted upon the parent material; *parent material,* the physical and mineralogical composition of the plant and geologic materials; *topography,* the general configuration of the land's surface; *climate,* the temperature and moisture conditions under which the soil formed; and *organisms,* the plant and animal life on and in the soil (Jenny, 1941; Jenny, 1980; Jenny, 1994).

Parent material greatly affects the development of the soil. Climate and organisms are active factors of soil formation. They act upon the parent material through the weathering process and slowly change it into a natural body with genetically related horizons. The effects of climate and organisms are conditioned by the topography of the area. Finally, time is needed for the transformation of the parent material into a soil that exhibits horizon differentiation.

The factors of soil formation are so closely interrelated in their effects on the soil and each other that few generalizations can be made regarding the effects of any one factor unless conditions are specified for the other four.

Time

Generally, a long time is required for the processes of soil formation to result in the formation of distinct horizons. Differences in the length of time that the parent material has been in place and the amount of disturbance, such as erosion or deposition, are commonly reflected in the degree of profile development.

Most soils that formed on the level parts of the uplands and on older stream terraces have well defined soil profiles. These soils show evidence of greater weathering than the soils in other areas and thus appear to be older and have a more mature soil profile. They also may have formed in materials that are less resistant to weathering, or they have been in place long enough for the formation of distinct horizons. A mature soil is one that has developed A and B horizons that were produced by the natural processes of soil formation. An immature soil has little or no horizon differentiation.

In Bartholomew County the oldest soils formed in loess and the underlying residuum that weathered from siltstone and shale bedrock. Spickert and Wrays soils are examples of soils that formed in loess and siltstone residuum.

Bartholomew County has been affected by at least the last three ice ages: the pre-Illinoian, Illinoian, and Wisconsin. The pre-Illinoian and Illinoian ages covered the entire county, except for the Knobstone area (Schmeider and Gray, 1966). The Wisconsin age only covered mostly the eastern half of Bartholomew County.

Cincinnati and Nabb soils are examples of the second oldest soils that formed in loess and till of Illinoian age. They have well developed profiles and are considered to be mature or nearly mature.

The third oldest soils formed in alluvial deposits more than 50,000 years old that are associated with the Illinoian Till Plain. These soils are on stream terraces. Pekin and Bartle soils are examples. They have well developed profiles and are considered to be mature or nearly mature. They are leached as deeply or nearly as deeply as those soils that formed in Illinoian till and are leached to a much greater depth than soils that formed in more recent till of Wisconsin age.

The fourth oldest soils are in the eastern part of the county. This area has till deposits of Wisconsin age. These soils are 12,000 to 22,000 years old. From the vicinity of Clifty Creek south to the county line is a 20- to 40-inch loess mantle over the till. Russell and Fincastle soils formed in this area. This area is only slightly older than the area north of Clifty Creek, where the loess is less than 20 inches thick over the till in which Crosby and Miami soils formed. These soils are not as deeply leached as the soils that formed in Illinoian till.

The soils on river terraces overlying gravel and sand deposited during the Wisconsin glacial period are only slightly younger than the soils formed in the Wisconsin Till Plain (fig. 37). The soils on river terraces formed in gravel and sand deposits left by the meltwater of the Wisconsin age glacier. Fox and Nineveh soils and the Martinsville soils that have a sandy substratum are examples of soils on these terraces.

Figure 37.—Close-up view of clay tonguing at the contact of the subsoil and the underlying sand and gravel deposits in an area of Nineveh sandy loam, 0 to 2 percent slopes.

These terraces are mainly along the Driftwood River, Flatrock River, East Fork of the White River, and Clifty Creek. During the time these terraces were being formed, or soon thereafter, sand was blown from these areas onto the adjacent uplands. Alvin, Bloomfield, and Princeton soils formed on these dune-shaped sand deposits. These are mature soils that are less thoroughly or deeply leached than those that developed in Illinoian till.

The soils on the first bottom are immature because the parent materials are young and new materials are deposited periodically. Stonelick and Beanblossom soils are examples of these soils on first-level flood plains. Soils on steep slopes, such as Senachwine soils, generally are immature because geological erosion removes the soil material nearly as rapidly as it accumulates. Also, the runoff rate is greater than in the less sloping areas and less water percolates down through the soil. Some kinds of parent rock are so resistant to weathering that soil formation is very slow even though other conditions are favorable. Brownstown soils are an example of soils that formed in weather-resistant rock.

Parent Material

Dr. Stanley M. Totten, professor of geology, Hanover College, helped to prepare this section.

Parent material influences the textural, chemical, and mineralogical composition of the soil properties (Frey and Lane, 1966; Wayne, 1956; Schmeider and Gray, 1966). The soils in Bartholomew County formed in a variety of parent materials and on many different types of landforms. Some soils formed in unconsolidated gravel, sand, silt, and clay deposited by glaciers, streams, and the wind. Much of the fine grained parent material of the soils formed in a large, shallow lake environment. Some soils formed in material weathered from siltstone and shale. The unconsolidated surficial materials are of variable thickness, ranging from 0 to more than 30 feet thick. Thus, bedrock is sufficiently close to the surface to exert some influence on soil formation over extensive areas of the county. The upper part of many of the soils formed in a different kind of material than the lower part. Many of the soils formed in as many as four different types of parent materials. These parent materials consist of loess and windblown sands of Wisconsin age; outwash of Wisconsin and Illinoian age; lacustrine material of Wisconsin age; till of Wisconsin and Illinoian age; residuum from siltstone, shale, and limestone bedrock that, in some places, is covered with a thin layer of till or loess; and alluvium along the streams and rivers.

The bedrock exposed in Bartholomew County belongs to the Silurian, Devonian, and Mississippian Systems of the Paleozoic Era. These rocks consist of shale, siltstone, limestone, and dolostone originating as fine grained terrigenous sediments and carbonate sediments that were deposited in the warm, shallow, marine waters covering much of the North American continent during the Paleozoic Era.

Approximately 750,000 years ago a period of broad uplift, weathering, and erosion followed the deposition of materials that formed the shale, siltstone, and limestone bedrock. The bedrock units in Bartholomew County dip gently to the southwest, away from the Cincinnati Arch and into the Illinois Basin. As a result, the rock units are successively younger in a westward direction in Bartholomew County. These rocks have weathered to form residuum, which can be composed of heavy clays, iron oxide, chert, or other materials. Remnants of this ancient residuum may be preserved beneath the till or more often have been incorporated into the glacial materials.

The oldest rocks in Bartholomew County are Silurian in age and contain the Laurel Member of the Salamonie Dolomite. The Silurian Laurel Member and the Jeffersonville and North Vernon Formations of the Devonian System consist of relatively resistant limestones and dolostones, which commonly outcrop in the eastern part of the county along the valley sides and on the valley floors in the northeastern and east-central parts of the county (fig. 38). Cliftycreek and Milton soils formed in materials weathered from these limestones.

The New Providence Formation of Mississippian age consists of greenish gray shale at the very base of the Knobstone Escarpment in Bartholomew County. The soft shales of this unit and of the overlying units are frequently referred to as “soapstone” because of the slippery or slick feel resulting from mica and a high clay content. Deam and Rarden soils formed in this shale residuum. The lower parts of the solum of most of the Coolville and Stonehead soils also formed in residuum from this shale.

The prominent Knobstone Escarpment is a highly dissected one-sided ridge facing east. This escarpment in western Bartholomew County is composed of a chain of steep, highly eroded hillslopes and ravines in which hard siltstone of the Spickert Knob Formation is exposed in scattered areas. On the lower part of the escarpment, the Spickert Knob Formation is composed of shaly siltstone formerly known as the Locust Point Formation. Kurtz and Gnawbone soils formed in residuum from the shaly

Figure 38.—Waterford Falls in an area of Milton-Rock outcrop complex, 25 to 40 percent slopes.

siltstone. The lower part of some Coolville, Stonehead, and Wellrock soils also formed in residuum from this shaly siltstone. The upper part of the escarpment, with elevations sometimes exceeding 900 feet, is composed of massive gray siltstone. The Spickert Knob Formation was formerly known as the Carwood Formation. Brownstown and Gilwood soils formed in the silty residuum derived from this bedrock (Rexroad and Lane, 1984).

Differential erosion of the dipping rocks has resulted in the development of three physiographic provinces within Bartholomew County—the Muscatatuck Regional Slope, the Scottsburg Lowland, and the Norman Upland Province.

The Muscatatuck Regional Slope is in the eastern part of the county and results from the Silurian limestones capping the Laughery Escarpment dipping gently to the west-southwest. The Muscatatuck Regional Slope is largely covered by Wisconsin till in Bartholomew County.

The Scottsburg Lowland is in the central part of the county and developed in the more easily eroded shales of the New Providence Formation, much of which is buried beneath alluvium and outwash in the valley of the East Fork of the White River. Separating the Scottsburg Lowland from the Norman Upland is the Knobstone Escarpment, which is one of the most prominent topographic features in Indiana.

The Norman Upland province, which consists of higher elevations and steeper slopes in the western part of the county, developed in the more resistant and massive siltstones of the Spickert Knob Formation.

Bartholomew County has been covered by continental ice sheets at least three times, during the pre-Illinoian, the Illinoian, and the Wisconsin glacial stages. These glaciers, although thin and near the southernmost limit of their advances, were able to modify the pre-glacial topography of Bartholomew County. The deposits left behind, mostly in the form of till, outwash, and some lacustrine material, have greatly influenced soil formation.

The oldest glacial deposits in the county consist of reddish outwash, the product of an Illinoian or pre-Illinoian ice advance occurring at least 250,000 years ago. This deposit consists primarily of stratified reddish sand in the form of low linear ridges concentrated in the northwestern (Camp Atterbury) section of the county. Some of these ridges are interpreted as crevasse fillings that formed when meltwaters washed debris from near the terminus of a stagnant ice sheet into depressions in the ice. After the retreat of the Illinoian ice sheet, there was an interglacial period of warmer climate similar to that of the present. The Sangamon paleosol developed in the reddish outwash during this warm period. Chetwynd, Medora, and Pike soils formed in loess and in the underlying paleosol that developed in the reddish outwash. The outwash material underlying the Wawaka soils is considered to be the same type of sandy outwash material (Noble and others, 1990).

The Illinoian ice sheet deposited a thin layer of till that ranges in thickness from a few feet to more than 30 feet. Erosion has since removed some or all of the till, especially on the steeper hillslopes. Following the retreat of the Illinoian ice sheet, the period from 125,000 to 70,000 years before the present was an interglacial period, similar to that of the present, characterized by weathering, erosion, and formation of the Sangamon paleosol. Hickory and Bonnell soils formed mainly in this paleosol and in Illinoian till material.

The Wisconsin age ice sheets formed about 70,000 years before the present in Canada but did not reach Indiana until about 24,000 years ago. The Wisconsin ice receded by melting approximately 15,000 to 20,000 years ago in central Indiana. This melting left behind a large amount of material that, exposed to the prevailing winds, produced a deposition of 8 to 10 feet of loess (windblown silt). The lower part of this loess deposit is often referred to as “gritty” loess, having 12 to 20 percent sand. This “gritty” loess is considered to be a mixture of early Wisconsin loess deposits with the underlying Sangamon paleosol materials (USDA, 1990).

The silty loess, which typically has less than 12 percent fine sand, is a later Wisconsin loess deposit that has had less influence from the underlying paleosol. Loess deposits were later reworked or removed by slope processes. Weathering, sheetwash, gullying, and stream action continue to modify parts of the Bartholomew County landscape today. Avonburg, Blocher, Cincinnati, Cobbsfork, and Nabb soils, from the surface downward, formed in silty loess, “gritty” loess, and the paleosol that developed in Illinoian till.

Modification of all pre-glacial valleys in the county occurred during and after each glacial stage. Some valleys were partially filled with till, alluvium, or lacustrine sediment. Stream terraces, the flat remnants of former flood plains, occur in places along the margins of most valleys. The stream terraces along Mud Creek, Wolf Creek, and the East and South Forks of White Creek typically are 6 to 20 feet above the modern flood plain. These terraces, which predate the Wisconsin ice advance, are underlain by silty or sandy, acidic alluvium and are capped by 2 or 3 feet of silty loess. Bartle, Pekin, and Peoga soils formed in loess-capped alluvium on stream terraces.

The Wisconsin glacier covered most of the eastern half of the county. As the ice receded from the

uplands, a mantle of mixed stones, silt, and clay, known as till, was left in place over the bedrock. Miami, Crosby, and Williamstown soils formed in the Wisconsin till material. Some areas of the Wisconsin Till Plain have a thin loess cap as much as 40 inches in thickness. Fincastle and Xenia soils are examples of soils that formed in the loess and underlying till. In places where the melting ice produced a great volume of water, large amounts of sand and gravel were deposited. The sand and gravel were deposited in stratified layers as outwash. Examples of soils formed in outwash are Fox, Martinsville, Nineveh, and Whitaker soils.

The Driftwood River, the Flatrock River, and the East Fork of the White River were major drainage channels for the meltwater from the Wisconsin glacier. For a period of time after the glacier receded, the outwash terraces and flood plains were repeatedly flooded. During the period of alternate flooding and drying, little vegetation was on the flood plains and outwash terraces. With no plant cover to keep the sediments from blowing, the prevailing southwesterly winds transported sand onto the uplands that lie just east of the outwash terraces. Alvin, Bloomfield, and Princeton soils formed in these eolian sand deposits.

Glacial lakes formed in many valleys that were blocked by till or rock divides or in backwater areas of meltwater streams. In these glacial lakes, sand and silt were deposited by moving water and clay was deposited by very slowly moving or stagnant water. Lakebeds in the county are associated mainly with the Wisconsin-age glacier. Lauer, McGary, and Zipp soils formed in fine textured lacustrine deposits.

Alluvium was deposited on the flood plains during all stages of glaciation. The composition of the alluvium on the modern flood plains in Bartholomew County varies, depending on the source of the alluvium, the location in the valley, and the velocity of the water that carried the sediment. Most of the alluvium deposited on the broader flood plains in the western part of the county is silty and acid. Bonnie, Piopolis, Steff, and Stendal soils are examples. Birds, Wakeland, and Wilbur soils occur mainly along narrow tributaries and formed in nonacid silty and loamy sediments that washed from hillslopes on loess-covered till plains. Beanblossom soils also occur along narrow tributaries. They formed in loamy sediments over very channery sediments that washed from hillslopes in the siltstone bedrock of the Norman Upland. Neutral or calcareous alluvium occurs on flood plains in areas draining the Wisconsin Till Plain. Bellcreek, Eel, Genesee, Medway, Rossburg, Shoals, Stonelick, and Sloan soils formed in these sediments.

Topography

Topography is the general configuration of the land's surface, including its relief, and its natural and manmade features. The topography of Bartholomew County ranges from nearly level on bottom land, terraces, and upland flats to very steep on uplands and terrace breaks. Most of the county has been greatly dissected by erosion and by streams. The lowest point in Bartholomew County is at an elevation of about 560 feet above sea level. It is in the southern part of the county where the East Fork of the White River enters Jackson County. The highest point is at an elevation of 1,018 feet above sea level and is on Taylor Hill just west of Harrison Lakes.

The pre-glacial topography determines the most important features in the western part of the county and in other areas where the till is thin. The areas covered by till were modified by glacial ice. Ice erosion and transport, acting on the landscape, have rounded the existing hills and filled some valleys (fig. 39). In the areas where the till is more than 20 to 30 feet thick, the landscape is defined mainly by streams entrenching into the till and forming a dendritic drainage pattern.

Variations in relief have affected the drainage and development of the soils in the county. Relief influences soil formation through its effects on drainage, runoff, and other water-related actions, including normal and accelerated erosion.

Differences in relief have radically affected the relationships of moisture and air in the soils. Soils that formed in the same type of parent material in steep areas are less developed than those in nearly level to sloping areas. This difference in soil formation is caused by rapid normal erosion, the reduced percolation of water through the soil material, and the lack of water in the soil necessary for the vigorous growth of plants that influence soil formation. The degree of profile development within a given period of time, on a given parent material, and under the same type of vegetation depends largely on the amount of water that passes through the soil material.

Climate

The temperature in Bartholomew County generally is in the midcontinental range. Large variations in temperature occur. Precipitation is rather evenly distributed throughout the year, but it is slightly heavier in the spring and early summer than it is in the fall. The

Figure 39.—A typical landscape in the survey area. Bartle-Pekin silt loams, 2 to 6 percent slopes, is in the foreground and Cincinnati-Blocher silt loams, 2 to 6 percent slopes, eroded, is in the background.

heavy rainfall has leached plant nutrients from the surface layer of the soil and has prevented the accumulation of free calcium carbonates.

The climate is so uniform throughout the area that differences among the soils cannot be attributed to differences in climate. Climatic forces act upon rocks to form the parent material in which the soils formed, but many of the more important soil characteristics would not develop if it were not for the activity of living organisms. If it were not for the changes brought about by the presence of plants and animals, the soils would consist merely of residual or transported materials derived from weathered rock, although some soils might have definite layers that formed through the addition of alluvial material by differential weathering or leaching.

Climate, acting alone on the parent material, is largely destructive. It causes the soluble materials to be washed out of the soils. If combined with plants and animal activity, climatic processes are constructive. A reversible cycle is established between intake and outgo of plant nutrients. Plants draw nutrients from the lower part of the soil profile. When the plants die, the surface soil is renewed in varying degrees by the plant nutrients that are returned to the upper part of the soil. In Bartholomew County the climate is such that nutrient leaching is greater than replacement. This accounts for the fact that some of the soils are strongly weathered, leached, acid, and low in fertility. Cobbsfork, Pekin, and Spickert soils are examples of such soils.

Organisms

Before Bartholomew County was settled, the native vegetation was most important in the complex of living organisms that affect soil development. Plants, micro-organisms, earthworms, and other forms of life that live on and in the soil contribute to its morphology. Bacteria and fungi are micro-organisms that affect the soil. They cause plant waste to decompose and to be incorporated into the soil. The higher forms of plants return organic material to the soil and transfer plant nutrients from the lower part of the soil profile to the upper part.

At one time, the survey area was almost completely covered with hardwood trees. Common species were tulip poplar, oak, hickory, elm, maple, and ash. A comparatively small amount of organic matter derived from the forest became incorporated into the soils while they were forming. In forested areas of uplands that have never been cleared, thin layers of forest litter and leaf mold cover the soils. A small amount of organic matter from decayed leaves and twigs is mixed throughout the topmost 1 or 2 inches of the surface layer of the soils. Cincinnati and Miami soils are examples of soils that formed mainly under hardwood trees. An area of these soils parallels the Driftwood River and Flatrock River; in this area, the native vegetation consisted of mixed hardwood trees and prairie grasses. A large amount of organic matter from the grasses was incorporated into the surface layer. Nineveh soils formed under mixed grasses and forest vegetation. In a few areas where Rossburg and Medway soils formed, the native vegetation was mainly grasses. In areas of Cyclone and Rensselaer soils, the native vegetation was swamp grasses and sedges as well as water-tolerant trees. These soils were covered with water much of the time. They formed as organic material fell into the water and slowly decayed and accumulated.

The vegetation is fairly uniform, except for areas of mixed grasses and hardwoods. Major differences in the soils, therefore, cannot be explained on the basis of differences in vegetation. Although some comparatively minor variations in the vegetation are associated with different soils, these variations are probably chiefly the result, and not the cause, of the differences in the soils.

Processes of Soil Formation

Several processes have been involved in the formation of the soils in Bartholomew County. These processes are the accumulation of organic matter; the dissolution, transfer, and removal of calcium carbonates and bases; the liberation and translocation of silicate clay minerals; and the reduction and transfer of iron. In most of the soils, more than one of these processes have helped to differentiate horizons.

Some organic matter has accumulated in the surface layer of all of the soils in the county. The content of organic matter is low or moderately low in most of the soils.

Carbonates and bases have been leached from the upper horizons of nearly all of the soils in the county. Leaching of carbonates and salts preceded the translocation of silicate clay minerals. Most of the carbonates and salts have been leached from the A and B horizons of the well drained soils. Even in the wet soils, some leaching is indicated by the absence of carbonates and by an acid reaction. Leaching is slower in wet soils than in well drained soils because of a seasonal high water table or the slow movement of water through the profile.

Clay accumulates in pores and other voids and forms films on the surfaces along which water moves. The leaching of bases and the subsequent translocation of silicate clays are among the more important processes of horizon differentiation in the county. Crosby soils are examples of soils in which translocated silicate clays have accumulated in the Bt horizon in the form of clay films.

Gleying, or the reduction and transfer of iron, has occurred in all of the very poorly drained to somewhat poorly drained soils. In these naturally wet soils, this process has significantly affected horizon differentiation. A gray color in the subsoil indicates the reduction of iron oxides. Reduction is commonly accompanied by transfer of the iron from upper horizons to lower horizons or by the removal of the iron from the soil profile. The redoximorphic concentrations in some horizons indicate the segregation of iron.

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Glossary

Ablation till. Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.

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.

Alder thicket. A tall, deciduous shrub community similar to willow shrub-carrs except that tag alder (speckled alder) is dominant.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Basal till. Compact glacial till deposited beneath the ice.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope. A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

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 planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are

determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.

Board foot. A unit of measure represented by a board 1 foot wide, 1 foot long, and 1 inch thick.

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.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

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 but have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps. Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.

Channery soil. A soil that is, by volume, more than 15 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

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. Soil material or rock fragments, or both,

moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. Any tillage and planting system in which a cover crop residue is maintained on at least 30 percent of the surface after planting in order to reduce the hazard of water erosion; in areas where wind erosion is the primary concern, a system that maintains a cover of at least 1,000 pounds of flat residue of small grain or its equivalent during the critical erosion period.

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). Fecal material deposited in water by aquatic organisms.

Cord. A unit of measurement of stacked wood. A standard cord occupies 128 cubic feet with dimensions of 4 feet by 4 feet by 8 feet.

Corrosive. High risk of corrosion to uncoated steel or deterioration of concrete.

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.

Cropping system. Growing crops according to a planned system of rotation and management practices.

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.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression. Any relatively sunken part of the Earth’s surface; especially a low-lying area surrounded by higher ground. A closed depression has no natural outlet for surface drainage. An open depression has a natural outlet for surface drainage.

Depth, soil. 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.

Disintegration moraine. A drift topography characterized by chaotic mounds and pits,

generally randomly oriented, developed in supraglacial drift by collapse and flow as the underlying stagnant ice melted. Slopes may be steep and unstable. Abrupt changes between materials of differing lithology are common.

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*.

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. Relatively small, linear depressions that, at some time, move concentrated water and either lack a defined channel or have a small, defined channel.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

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.

End moraine. A ridge-like accumulation that is being or was produced at the outer margin of an actively flowing glacier at any given time.

Eolian deposits. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

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.

Erosion pavement. A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Esker. A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

Fan terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

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.

Firebreak. Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to

facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to inundation under flood-stage conditions unless protected artificially. It is generally a constructional landform consisting of sediment deposited during overflow and lateral migration of the stream.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

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.

Glacial drift. Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.

Glacial outwash. Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside,

especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

Herbaceous peat. An accumulation of organic material, decomposed to some degree, that 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 concentrates.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

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-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Soils are assigned to four groups. In group A are soils having a high infiltration rate when thoroughly wet and having a low runoff potential. They are mainly deep, well drained, and sandy or gravelly. In group D, at the other extreme, are soils having a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface, have a zone with wet soil moisture status high in the profile on a permanent basis, or are shallow over nearly impervious bedrock or other material. A soil is assigned to two hydrologic groups if part of the acreage is artificially drained and part is undrained.

Ice-walled lake plain. A relict surface marking the floor of an extinct lake basin that was formed on solid ground and surrounded by stagnant ice in a stable or unstable superglacial environment on stagnation moraines. As the ice melted, the lake plain became perched above the adjacent landscape. The lake plain is well sorted, generally fine textured, stratified deposits.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are 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.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron concentrations. High-chroma zones having a high content of iron and manganese oxide because of chemical oxidation and accumulation, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic concentration.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame. An irregular, short ridge or hill of stratified glacial drift.

Kame moraine. An end moraine that contains numerous kames. A group of kames along the front of a stagnant glacier, commonly comprising the slumped remnants of a formerly continuous outwash plain built up over the foot of rapidly wasting or stagnant ice.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

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.

Lakeshore. A narrow strip of land in contact with or bordering a lake; especially the beach of a lake.

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.

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. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly. (See Slippage.)

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. Fine grained material, dominantly of silt-sized particles, deposited by wind.

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.

Low strength. The soil is not strong enough to support loads.

MAP. Mean annual precipitation, expressed in inches.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

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. 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. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15

millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

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 cannot be recognized.

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

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. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Parent material. The unconsolidated organic and mineral material in which soil forms.

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.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitted outwash plain. An outwash plain marked by many irregular depressions, such as kettles, shallow pits, and potholes, which formed by melting of incorporated ice masses; common in Wisconsin and Minnesota.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plateau. An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Poletimber. Hardwood trees ranging from 5 to 11 inches and conifers ranging from 5 to 9 inches in diameter at breast height.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential 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. Burning an area under conditions of weather and soil moisture and at the time of day that will result in the intensity of heat and spread required to accomplish specific forest management, wildlife, grazing, or fire hazard reduction purposes.

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.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Representative value (in tables). Value indicative of conditions that occur most commonly.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

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.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

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.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

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.

Sawtimber. Hardwood trees more than 11 inches and conifers more than 9 inches in diameter at breast height.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seedling. A tree less than 1 inch in diameter at breast height.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slippage. Soil slippage is a mass movement of soil that happens when the vegetation is removed and soil water is at or near saturation or when the slope is undercut.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, the following classes for simple classes are recognized (in some areas, the slopes are more complex and can cover more than one of these slope classes):

Level	0 to 1 percent
Nearly level	0 to 2 percent
Very gently sloping	2 to 4 percent
Gently sloping	2 to 6 percent
Moderately sloping	6 to 12 percent
Strongly sloping	12 to 18 percent
Moderately steep	18 to 25 percent
Steep	25 to 35 percent
Very steep	35 percent and higher

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stagnation moraine. A body of drift released by the melting of a glacier that ceased flowing. Commonly, but not always, occurs near ice margins; composed of till, ice-contact stratified drift, and small areas of glacial lake sediment. Typical landforms are knob-and-kettle topography, locally including ice-walled lake plains.

Stone line. A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the

next crop, and during the early growing period of the new crop.

Subsidence. The potential decrease in surface elevation as a result of the drainage of wet soils that have organic layers or semi-fluid, mineral layers. Subisdence, 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. A belt of thick glacial drift that generally marks the termination of important glacial advances. It commonly is a massive, arcuate ridge or complex of ridges underlain by till and other types of drift.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

Till plain. An extensive area of nearly level to undulating soils underlain by glacial till.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

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 (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Willow shrub-carrs. Plant communities composed of tall, deciduous shrubs growing on saturated to seasonally flooded soils. They are typically dominated by willow.

Windthrow. The uprooting and tipping over of trees by the wind.

Woody peat. An accumulation of organic material that is predominantly composed of trees, shrubs, and other woody plants.

Tables

Note: The tables in this publication are included for general reference only. They were current as of 2002. The data may have been revised or updated since that date. The most current information for this survey area is available via the Electronic Field Office Technical Guide (eFOTG) National Web site, the NRCS Soil Data Mart Web site, or the NRCS Web Soil Survey.

Table 1.--Temperature and Precipitation

(Recorded in the period 1971-2000 at Columbus, Indiana)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	36.4	18.9	27.6	65	-12	4	2.66	1.32	3.82	5	4.9
February----	41.6	22.2	31.9	71	-5	5	2.63	1.24	3.83	5	3.4
March-------	52.4	31.0	41.7	80	9	46	3.66	2.19	4.99	7	1.8
April-------	63.7	40.7	52.2	85	23	150	4.36	2.43	6.06	8	0.0
May---------	73.7	51.5	62.6	89	34	394	4.63	2.95	6.16	8	0.0
June--------	82.1	61.0	71.6	94	45	642	3.45	1.81	4.89	6	0.0
July--------	85.9	64.9	75.4	97	52	790	4.02	2.21	5.62	6	0.0
August------	84.4	62.5	73.5	96	49	727	3.75	2.08	5.23	5	0.0
September---	78.3	54.3	66.3	93	37	490	3.06	1.38	4.49	5	0.0
October-----	66.7	42.0	54.3	85	25	187	2.78	1.54	3.89	5	0.1
November----	53.3	33.7	43.5	77	15	53	3.75	2.20	5.14	6	0.5
December----	41.3	24.3	32.8	66	-3	10	3.16	1.76	4.40	6	2.6
Yearly:											
Average---	63.3	42.3	52.8	---	---	---	---	---	---	---	---
Extreme---	103	-26	---	98	-15	---	---	---	---	---	---
Total-----	---	---	---	---	---	3,499	41.92	36.20	47.44	72	13.3

* 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 (40 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Columbus, Indiana)

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. 9	Apr. 18	May 1
2 year in 10 later than--	Apr. 3	Apr. 13	Apr. 26
5 year in 10 later than--	Mar. 24	Apr. 5	Apr. 17
First freezing temperature in fall:			
1 yr in 10 earlier than--	Oct. 24	Oct. 14	Oct. 5
2 yr in 10 earlier than--	Oct. 31	Oct. 20	Oct. 10
5 yr in 10 earlier than--	Nov. 12	Oct. 31	Oct. 18

Table 3.--Growing Season

(Recorded for the period 1971-2000 at Columbus, Indiana)

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	207	187	163
8 years in 10	216	194	170
5 years in 10	232	208	183
2 years in 10	249	222	196
1 year in 10	257	229	203

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
AddA	Avonburg silt loam, 0 to 2 percent slopes	6,060	2.3
AddB2	Avonburg silt loam, 2 to 4 percent slopes, eroded	823	0.3
AfsB	Alvin-Princeton fine sandy loams, 2 to 6 percent slopes	2,675	1.0
AfsC2	Alvin-Princeton fine sandy loams, 6 to 12 percent slopes, eroded	1,565	0.6
AmkA	Ayrshire fine sandy loam, 0 to 2 percent slopes	2,074	0.8
BbhA	Bartle silt loam, 0 to 2 percent slopes	3,077	1.2
BbiB	Bartle-Pekin silt loams, 2 to 6 percent slopes	657	0.3
BcrAW	Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration	1,407	0.5
BdhAH	Bellcreek silty clay loam, 0 to 1 percent slopes, frequently flooded, brief duration	2,595	1.0
BfbAH	Bellcreek silt loam, 0 to 1 percent slopes, frequently flooded, brief duration	1,173	0.4
BgeAW	Birds silt loam, 0 to 1 percent slopes, occasionally flooded, very brief duration	688	0.3
BlgC2	Blocher-Cincinnati silt loams, 6 to 12 percent slopes, eroded	5,917	2.3
BlgC3	Blocher-Cincinnati silt loams, 6 to 12 percent slopes, severely eroded	4,929	1.9
BlhD2	Blocher-Bonnell silt loams, 12 to 25 percent slopes, eroded	6,103	2.3
BluC	Bloomfield-Alvin loamy sands, 6 to 12 percent slopes	440	0.2
BnuD3	Bonnell-Hickory-Blocher complex, 12 to 25 percent slopes, severely eroded	2,588	1.0
BobE5	Bonnell-Hickory clay loams, 15 to 30 percent slopes, gullied	69	*
BodAV	Bonnie silt loam, 0 to 1 percent slopes, frequently flooded, very brief duration	3,038	1.2
CldB2	Cincinnati-Blocher silt loams, 2 to 6 percent slopes, eroded	647	0.2
ClfA	Cobbsfork silt loam, 0 to 1 percent slopes	4,853	1.8
CmbAW	Cohoctah loam, 0 to 1 percent slopes, occasionally flooded, very brief duration	136	*
CmzA	Cliftycreek silt loam, 0 to 2 percent slopes	150	*
CmzB2	Cliftycreek silt loam, 2 to 6 percent slopes, eroded	298	0.1
CmzC2	Cliftycreek silt loam, 6 to 12 percent slopes, eroded	245	*
ColD2	Coolville-Rarden-Stonehead silt loams, 12 to 18 percent slopes, eroded	557	0.2
ConC3	Coolville-Rarden complex, 6 to 12 percent slopes, severely eroded	55	*
CudA	Crosby silt loam, 0 to 2 percent slopes	14,288	5.4
CulB	Crosby-Williamstown silt loams, 2 to 4 percent slopes	4,631	1.8
CxdA	Cyclone silty clay loam, 0 to 1 percent slopes	9,922	3.8
DbqE	Deam silt loam, very deep, 15 to 30 percent slopes	552	0.2
EcyAH	Eel loam, 0 to 2 percent slopes, frequently flooded, brief duration	1,754	0.7
EcyAW	Eel loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	942	0.4
EdeAW	Eel silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	12	*
EepAQ	Elkinsville silt loam, 0 to 2 percent slopes, rarely flooded	83	*
FdbA	Fincastle silt loam, 0 to 2 percent slopes	16,965	6.5
FdqB	Fincastle-Xenia silt loams, 2 to 4 percent slopes	4,873	1.9
FexA	Fox loam, 0 to 2 percent slopes	6,177	2.4
FexAQ	Fox loam, 0 to 2 percent slopes, rarely flooded	54	*
FexB2	Fox loam, 2 to 6 percent slopes, eroded	1,354	0.5
FgqC3	Fox-Casco sandy loams, 6 to 12 percent slopes, severely eroded	673	0.3
GccAH	Genesee loam, 0 to 2 percent slopes, frequently flooded, brief duration	6,090	2.3
GccAW	Genesee loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	827	0.3
GcpAW	Genesee silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	7	*
GgbG	Gilwood-Brownstown silt loams, 25 to 75 percent slopes	5,124	2.0
GgfD2	Gilwood-Wrays silt loams, 12 to 25 percent slopes, eroded	2,344	0.9
HcgAW	Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	358	0.1
HctAW	Haymond-Wirt silt loams, 0 to 2 percent slopes, occasionally flooded, very brief duration	1,059	0.4
HeoF	Hickory silt loam, 25 to 50 percent slopes	2,839	1.1
HleAW	Holton silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	356	0.1
KugG	Kurtz-Gnawbone silt loams, 20 to 60 percent slopes	3,288	1.3
LeaA	Lauer silt loam, 0 to 2 percent slopes	1,844	0.7
MecAQ	Martinsville loam, 0 to 2 percent slopes, rarely flooded	204	*
MecB	Martinsville loam, 2 to 6 percent slopes	226	*
MfwA	Martinsville loam, sandy substratum, 0 to 2 percent slopes	3,732	1.4
MfwAQ	Martinsville loam, sandy substratum, 0 to 2 percent slopes, rarely flooded	173	*
MfwB2	Martinsville loam, sandy substratum, 2 to 6 percent slopes, eroded	691	0.3
MfxA	Martinsville sandy loam, sandy substratum, 0 to 2 percent slopes	2,412	0.9
MhuA	McGary silt loam, 0 to 2 percent slopes	198	*
MhyB	Medora silt loam, 2 to 6 percent slopes	197	*
MhyC2	Medora silt loam, 6 to 12 percent slopes, eroded	1,261	0.5
MjjAH	Medway silty clay loam, 0 to 2 percent slopes, frequently flooded, brief duration	1,725	0.7
MmoC3	Miami clay loam, 6 to 12 percent slopes, severely eroded	6,759	2.6

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
MmoD3	Miami clay loam, 12 to 18 percent slopes, severely eroded	1,316	0.5
MnpB2	Miami silt loam, 2 to 6 percent slopes, eroded	3,820	1.5
MnpC2	Miami silt loam, 6 to 12 percent slopes, eroded	1,689	0.6
MnpD2	Miami silt loam, 12 to 18 percent slopes, eroded	646	0.2
MqbA	Milton silt loam, 0 to 2 percent slopes	348	0.1
MqbB2	Milton silt loam, 2 to 6 percent slopes, eroded	391	0.1
MqbC2	Milton silt loam, 6 to 12 percent slopes, eroded	224	*
MrbF	Milton-Rock outcrop complex, 25 to 40 percent slopes	314	0.1
NaaB2	Nabb silt loam, 2 to 6 percent slopes, eroded	8,494	3.2
NpcA	Nineveh gravelly sandy loam, 0 to 2 percent slopes	1,112	0.4
NpcAQ	Nineveh gravelly sandy loam, 0 to 2 percent slopes, rarely flooded	1,314	0.5
NpeA	Nineveh sandy loam, 0 to 2 percent slopes	3,797	1.4
NpeAQ	Nineveh sandy loam, 0 to 2 percent slopes, rarely flooded	100	*
NpeB2	Nineveh sandy loam, 2 to 6 percent slopes, eroded	1,047	0.4
ObaA	Ockley loam, 0 to 2 percent slopes	1,368	0.5
OfaAW	Oldenburg silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	167	*
Omz	Orthents, earthen dam	88	*
PcrB2	Pekin silt loam, 2 to 6 percent slopes, eroded	1,908	0.7
PcrC2	Pekin silt loam, 6 to 12 percent slopes, eroded	624	0.2
PcrC3	Pekin silt loam, 6 to 12 percent slopes, severely eroded	654	0.2
PhaA	Peoga silt loam, 0 to 1 percent slopes	1,065	0.4
PlpAV	Piopolis silty clay loam, 0 to 1 percent slopes, frequently flooded, very brief duration	104	*
Pml	Pits, quarry	241	*
PnnD	Pike-Chetwynd silt loams, 12 to 20 percent slopes	309	0.1
PnnF	Pike-Chetwynd silt loams, 20 to 50 percent slopes	770	0.3
Ppu	Pits, sand and gravel	223	*
RctD3	Rarden-Coolville complex, 12 to 22 percent slopes, severely eroded	386	0.1
RehA	Rensselaer-Treaty silt loams, 0 to 1 percent slopes	909	0.3
ReyA	Rensselaer loam, 0 to 1 percent slopes	3,276	1.2
ReyAQ	Rensselaer loam, 0 to 1 percent slopes, rarely flooded	68	*
RqaG	Rodman sandy loam, 25 to 50 percent slopes	178	*
RtxAH	Rossburg silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	6,280	2.4
RtxAK	Rossburg silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration	22	*
RywB2	Russell silt loam, 2 to 6 percent slopes, eroded	659	0.3
SfyA	Shircliff silt loam, 0 to 2 percent slopes	56	*
SifE	Senachwine loam, 18 to 25 percent slopes	610	0.2
SifG	Senachwine loam, 25 to 70 percent slopes	1,168	0.4
SldAH	Shoals silt loam, 0 to 2 percent slopes, frequently flooded, brief duration	3,731	1.4
SldAW	Shoals silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	2,276	0.9
SnfA	Sleeth loam, 0 to 2 percent slopes	822	0.3
SoaB	Spickert silt loam, 2 to 6 percent slopes	579	0.2
SocAH	Sloan silty clay loam, 0 to 1 percent slopes, frequently flooded, brief duration	1,071	0.4
SocAW	Sloan silty clay loam, 0 to 1 percent slopes, occasionally flooded, very brief duration	99	*
SoeC2	Spickert-Wrays silt loams, 6 to 18 percent slopes, eroded	1,188	0.5
SolC2	Spickert-Wrays silt loams, 6 to 12 percent slopes, eroded	809	0.3
SolC3	Spickert-Wrays silt loams, 6 to 12 percent slopes, severely eroded	827	0.3
StaAV	Steff silt loam, 0 to 2 percent slopes, frequently flooded, very brief duration	650	0.2
StdAQ	Stendal silt loam, 0 to 2 percent slopes, rarely flooded	798	0.3
StdAV	Stendal silt loam, 0 to 2 percent slopes, frequently flooded, very brief duration	2,678	1.0
StmB	Stonehead silt loam, 2 to 6 percent slopes	299	0.1
SucC2	Stonehead-Coolville silt loams, 6 to 12 percent slopes, eroded	389	0.1
SujD5	Stonehead silt loam, 10 to 20 percent slopes, gullied	66	*
SulC2	Stonehead-Wellrock silt loams, 6 to 15 percent slopes, eroded	1,140	0.4
SuoAH	Stonelick fine sandy loam, 0 to 2 percent slopes, frequently flooded, brief duration	2,935	1.1
Uaz	Udorthents, sandy	230	*
Uby	Udorthents, loamy	1,014	0.4
UemB	Urban land-Alvin-Princeton complex, 2 to 6 percent slopes	276	0.1
UemC	Urban land-Alvin-Princeton complex, 6 to 12 percent slopes	136	*
UenA	Urban land-Fox complex, 0 to 2 percent slopes	2,643	1.0
UenB	Urban land-Fox complex, 2 to 6 percent slopes	324	0.1
UepC	Urban land-Fox-Casco complex, 6 to 12 percent slopes	124	*
UfcB	Urban land-Cincinnati-Nabb complex, 2 to 12 percent slopes	1,376	0.5
UfdA	Urban land-Cobbsfork-Avonburg complex, 0 to 2 percent slopes	687	0.3

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
UfyB	Urban land-Fincastle-Russell complex, 2 to 6 percent slopes	157	*
UfnA	Urban land-Crosby complex, 0 to 2 percent slopes	289	0.1
UfoA	Urban land-Cyclone complex, 0 to 1 percent slopes	62	*
UfxA	Urban land-Fincastle complex, 0 to 2 percent slopes	104	*
UhyA	Urban land-Martinsville, sandy substratum, complex, 0 to 2 percent slopes	713	0.3
UkbC	Urban land-Miami complex, 6 to 12 percent slopes	93	*
UkpA	Urban land-Ockley complex, 0 to 2 percent slopes	315	0.1
UkqA	Urban land-Nineveh complex, 0 to 2 percent slopes	2,619	1.0
UkqB	Urban land-Nineveh complex, 2 to 6 percent slopes	137	*
UmqA	Urban land-Sleeth complex, 0 to 2 percent slopes	393	0.1
UnnA	Urban land-Westland complex, 0 to 1 percent slopes	184	*
Usl	Udorthents, rubbish	263	0.1
W	Water	3,159	1.2
WaaAV	Wakeland silt loam, 0 to 2 percent slopes, frequently flooded, very brief duration	277	0.1
WaaAW	Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	3,568	1.4
WacAW	Wakeland-Birds silt loams, 0 to 2 percent slopes, occasionally flooded, very brief duration	976	0.4
WbiAW	Wilbur-Wakeland silt loams, 0 to 2 percent slopes, occasionally flooded, very brief duration	1,284	0.5
WdlC2	Wawaka loam, 6 to 12 percent slopes, eroded	52	*
WdrB2	Wawaka silt loam, 2 to 6 percent slopes, eroded	109	*
WokAW	Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	667	0.3
WolAV	Wilhite silty clay, 0 to 1 percent slopes, frequently flooded, very brief duration	348	0.1
WprAV	Wirt loam, 0 to 2 percent slopes, frequently flooded, very brief duration	305	0.1
WprAW	Wirt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	26	*
WqlA	Westland clay loam, 0 to 1 percent slopes	1,330	0.5
WqlAQ	Westland clay loam, 0 to 1 percent slopes, rarely flooded	702	0.3
WsuA	Whitaker loam, 0 to 2 percent slopes	3,660	1.4
WsyAQ	Whitaker sandy loam, 0 to 2 percent slopes, rarely flooded	506	0.2
WufB2	Williamstown silt loam, 2 to 6 percent slopes, eroded	7,537	2.9
XabB2	Xenia silt loam, 2 to 6 percent slopes, eroded	1,431	0.5
XfuB2	Miami-Rainsville silt loams, 2 to 6 percent slopes, eroded	337	0.1
XrbC2	Miami-Rainsville loams, 6 to 12 percent slopes, eroded	476	0.2
XrkD2	Miami-Kendallville loams, 12 to 18 percent slopes, eroded	89	*
ZboA	Zipp silty clay loam, 0 to 1 percent slopes	436	0.2
	Total	262,329	100.0

* Less than 0.1 percent.

Table 5.--Main Cropland and Pastureland Limitations and Hazards

(See text for a description of the limitations and hazards listed in this table. Only soils suitable for cultivated crops are listed in this table.)

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
AddA:		
Avonburg	Wetness, low pH, crusting, restricted permeability.	Trafficability limitation, low pH.
AddB2:		
Avonburg	Wetness, low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Trafficability limitation, low pH, water erosion.
AfsB:		
Alvin	Low pH, water erosion, wind erosion, moderate available water capacity.	Low pH, water erosion, wind erosion.
Princeton	Low pH, water erosion, wind erosion.	Low pH, water erosion, wind erosion.
AfsC2:		
Alvin	Low pH, water erosion, wind erosion, moderate available water capacity.	Low pH, water erosion, wind erosion.
Princeton	Low pH, water erosion, wind erosion.	Low pH, water erosion, wind erosion.
AmkA:		
Ayrshire	Wetness, low pH, wind erosion. .	Trafficability limitation, low pH, wind erosion.
BbhA:		
Bartle	Wetness, low pH, crusting, moderate available water capacity, restricted permeability.	Trafficability limitation, low pH.
BbiB:		
Bartle	Wetness, low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Trafficability limitation, low pH, water erosion.
Pekin	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
BcrAW:		
Beanblossom	Flooding, low pH, crusting, moderate available water capacity.	Flooding, low pH.
BdhAH:		
Bellcreek	Flooding, ponding, wetness, high pH, clodding.	Flooding, ponding, wetness, trafficability limitation, high pH.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
BfbAH:		
Bellcreek	Flooding, ponding, wetness, high pH.	Flooding, ponding, wetness, trafficability limitation, high pH.
BgeAW:		
Birds	Flooding, ponding, wetness, low pH, crusting.	Flooding, ponding, wetness, trafficability limitation, low pH.
BlgC2:		
Blocher	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
Cincinnati	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
BlgC3:		
Blocher	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
Cincinnati	Wetness, limited rooting depth (fragipan), low pH, crusting, water erosion, low available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion, low available water capacity.
BlhD2:		
Blocher	Equipment limitation (slope), low pH, crusting, water erosion, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
Bonnell	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
BluC:		
Bloomfield	Low pH, water erosion, wind erosion, low available water capacity.	Low pH, water erosion, wind erosion, low available water capacity.
Alvin	Low pH, water erosion, wind erosion, moderate available water capacity.	Low pH, water erosion, wind erosion.
BnuD3:		
Bonnell	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
Hickory	Equipment limitation (slope), low pH, crusting, water erosion.	Equipment limitation (slope), low pH, water erosion.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
BnuD3:		
Blocher	Equipment limitation (slope), low pH, crusting, water erosion, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
BobE5:		
Bonnell	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
Hickory	Equipment limitation (slope), low pH, crusting, water erosion.	Equipment limitation (slope), low pH, water erosion.
BodAV:		
Bonnie	Flooding, ponding, wetness, low pH, crusting.	Flooding, ponding, wetness, trafficability limitation, low pH.
CldB2:		
Cincinnati	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
Blocher	Low pH, crusting, water erosion, restricted permeability.	Low pH, water erosion.
ClfA:		
Cobbsfork	Ponding, wetness, low pH, crusting, restricted permeability.	Ponding, wetness, trafficability limitation, low pH.
CmbAW:		
Cohoctah	Flooding, ponding, wetness, high pH.	Flooding, ponding, wetness, trafficability limitation, high pH.
CmzA:		
Cliftycreek	Crusting.	This soil is well suited to pastureland.
CmzB2:		
Cliftycreek	Crusting, water erosion.	Water erosion.
CmzC2:		
Cliftycreek	Crusting, water erosion.	Water erosion.
ColD2:		
Coolville	Equipment limitation (slope), wetness, low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
ColD2:		
Rarden	Equipment limitation (slope), wetness, limited rooting depth (bedrock), low pH, crusting, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), limited rooting depth (bedrock), low pH, water erosion, low available water capacity.
Stonehead	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
ConC3:		
Coolville	Wetness, low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
Rarden	Wetness, limited rooting depth (bedrock), low pH, crusting, water erosion, low available water capacity, restricted permeability.	Limited rooting depth (bedrock), low pH, water erosion, low available water capacity.
CudA:		
Crosby	Wetness, limited rooting depth (dense till), low pH, crusting, moderate available water capacity, restricted permeability.	Trafficability limitation, limited rooting depth (dense till), low pH.
CulB:		
Crosby	Wetness, limited rooting depth (dense till), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Trafficability limitation, limited rooting depth (dense till), low pH, water erosion.
Williamstown	Limited rooting depth (dense till), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (dense till), low pH, water erosion.
CxdA:		
Cyclone	Ponding, wetness.	Ponding, wetness, trafficability limitation.
DbqE:		
Deam	Equipment limitation (slope), low pH, water erosion.	Equipment limitation (slope), low pH, water erosion.
EcyAH:		
Eel	Flooding, high pH, crusting.	Flooding, high pH.
EcyAW:		
Eel	Flooding, high pH, crusting.	Flooding, high pH.
EdeAW:		
Eel	Flooding, crusting.	Flooding.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
EepAQ:		
Elkinsville	Low pH, crusting.	Low pH.
FdbA:		
Fincastle	Wetness, low pH, crusting.	Trafficability limitation, low pH.
FdqB:		
Fincastle	Wetness, low pH, crusting, water erosion.	Trafficability limitation, low pH, water erosion.
Xenia	Low pH, crusting, water erosion.	Low pH, water erosion.
FexA:		
Fox	Limited rooting depth (sand and gravel), low pH, crusting, moderate available water capacity.	Limited rooting depth (sand and gravel), low pH.
FexAQ:		
Fox	Limited rooting depth (sand and gravel), low pH, crusting, moderate available water capacity.	Limited rooting depth (sand and gravel), low pH.
FexB2:		
Fox	Limited rooting depth (sand and gravel), low pH, crusting, water erosion, moderate available water capacity.	Limited rooting depth (sand and gravel), low pH, water erosion.
FgqC3:		
Fox	Limited rooting depth (sand and gravel), low pH, high pH, water erosion, wind erosion, moderate available water capacity.	Limited rooting depth (sand and gravel), low pH, high pH, water erosion, wind erosion.
Casco	Limited rooting depth (sand and gravel), low pH, high pH, water erosion, wind erosion, low available water capacity.	Limited rooting depth (sand and gravel), low pH, high pH, water erosion, wind erosion, low available water capacity.
GccAH:		
Genesee	Flooding, crusting.	Flooding.
GccAW:		
Genesee	Flooding, crusting.	Flooding.
GcpAW:		
Genesee	Flooding, crusting.	Flooding.
GgbG:		
Gilwood	Equipment limitation (slope), limited rooting depth (bedrock), low pH, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), limited rooting depth (bedrock), low pH, water erosion, low available water capacity.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
GgbG:		
Brownstown	Equipment limitation (slope), limited rooting depth (bedrock), low pH, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), limited rooting depth (bedrock), low pH, water erosion, low available water capacity.
GgfD2:		
Gilwood	Equipment limitation (slope), limited rooting depth (bedrock), low pH, crusting, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), limited rooting depth (bedrock), low pH, water erosion, low available water capacity.
Wrays	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
HcgAW:		
Haymond	Flooding, low pH, crusting.	Flooding, low pH.
HctAW:		
Haymond	Flooding, low pH, crusting.	Flooding, low pH.
Wirt	Flooding, low pH, crusting.	Flooding, low pH.
HeoF:		
Hickory	Equipment limitation (slope), low pH, water erosion.	Equipment limitation (slope), low pH, water erosion.
HleAW:		
Holton	Flooding, wetness, low pH, crusting.	Flooding, trafficability limitation, low pH.
KugG:		
Kurtz	Equipment limitation (slope), low pH, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
Gnawbone	Equipment limitation (slope), limited rooting depth (bedrock), low pH, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), limited rooting depth (bedrock), low pH, water erosion.
LeaA:		
Lauer	Wetness, low pH, crusting.	Trafficability limitation, low pH.
MecAQ:		
Martinsville	Low pH, crusting.	Low pH.
MecB:		
Martinsville	Low pH, crusting, water erosion.	Low pH, water erosion.
MfwA:		
Martinsville	Low pH, crusting.	Low pH.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
MfwAQ:		
Martinsville	Low pH, crusting.	Low pH.
MfwB2:		
Martinsville	Low pH, crusting, water erosion.	Low pH, water erosion.
MfxA:		
Martinsville, sandy substratum	Low pH, wind erosion, moderate available water capacity,	Low pH, wind erosion.
MhuA:		
McGary	Wetness, low pH, crusting.	Trafficability limitation, low pH.
MhyB:		
Medora	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
MhyC2:		
Medora	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
MjjAH:		
Medway	Flooding, high pH.	Flooding, high pH.
MmoC3:		
Miami	Limited rooting depth (dense till), low pH, crusting, water erosion, low available water capacity, restricted permeability.	Limited rooting depth (dense till), low pH, water erosion, low available water capacity.
MmoD3:		
Miami	Equipment limitation (slope), limited rooting depth (dense till), low pH, crusting, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), limited rooting depth (dense till), low pH, water erosion, low available water capacity.
MnpB2:		
Miami	Limited rooting depth (dense till), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (dense till), low pH, water erosion.
MnpC2:		
Miami	Limited rooting depth (dense till), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (dense till), low pH, water erosion.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
MnpD2:		
Miami	Equipment limitation (slope), limited rooting depth (dense till), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), limited rooting depth (dense till), low pH, water erosion.
MqbA:		
Milton	Limited rooting depth (bedrock), low pH, crusting, moderate available water capacity, restricted permeability.	Limited rooting depth (bedrock), low pH.
MqbB2:		
Milton	Limited rooting depth (bedrock), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (bedrock), low pH, water erosion.
MqbC2:		
Milton	Limited rooting depth (bedrock), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (bedrock), low pH, water erosion.
MrbF:		
Milton	Equipment limitation (slope), limited rooting depth (bedrock), high pH, crusting, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), limited rooting depth (bedrock), high pH, water erosion, low available water capacity.
Rock outcrop	Areas of rock outcrop.	Areas of rock outcrop.
NaaB2:		
Nabb	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
NpcA:		
Nineveh	Equipment limitation (rock fragments in the surface layer), limited rooting depth (sand and gravel), low available water capacity.	Equipment limitation (rock fragments in the surface layer), limited rooting depth (sand and gravel), low available water capacity.
NpcAQ:		
Nineveh	Equipment limitation (rock fragments in the surface layer), limited rooting depth (sand and gravel), low available water capacity.	Equipment limitation (rock fragments in the surface layer), limited rooting depth (sand and gravel), low available water capacity.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
NpeA:		
Nineveh	Limited rooting depth (sand and gravel), wind erosion, moderate available water capacity.	Limited rooting depth (sand and gravel), wind erosion.
NpeAQ:		
Nineveh	Limited rooting depth (sand and gravel), wind erosion, moderate available water capacity.	Limited rooting depth (sand and gravel), wind erosion.
NpeB2:		
Nineveh	Limited rooting depth (sand and gravel), wind erosion, moderate available water capacity.	Limited rooting depth (sand and gravel), wind erosion.
ObaA:		
Ockley	Low pH, crusting.	Low pH.
OfaAW:		
Oldenburg	Flooding, low pH, crusting.	Flooding, low pH.
Omz:		
Orthents, earthen dam	Not rated.	Not rated.
PcrB2:		
Pekin	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
PcrC2:		
Pekin	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
PcrC3:		
Pekin	Wetness, low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
PhaA:		
Peoga	Ponding, wetness, low pH, crusting, restricted permeability.	Ponding, wetness, trafficability limitation, low pH.
PlpAV:		
Piopolis	Flooding, ponding, wetness, low pH, crusting, restricted permeability.	Flooding, ponding, wetness, trafficability limitation, low pH.
Pml:		
Pits, quarry	Not rated.	Not rated.
PnnD:		
Pike	Equipment limitation (slope), low pH, water erosion.	Equipment limitation (slope), low pH, water erosion.
Chetwynd	Equipment limitation (slope), low pH, water erosion.	Equipment limitation (slope), low pH, water erosion.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
PnnF:		
Pike	Equipment limitation (slope), low pH, water erosion.	Equipment limitation (slope), low pH, water erosion.
Chetwynd	Equipment limitation (slope), low pH, water erosion.	Equipment limitation (slope), low pH, water erosion.
Ppu:		
Pits, sand and gravel	Not rated.	Not rated.
RctD3:		
Rarden	Equipment limitation (slope), wetness, limited rooting depth (bedrock), low pH, crusting, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), limited rooting depth (bedrock), low pH, water erosion, low available water capacity.
Coolville	Equipment limitation (slope), wetness, low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
RehA:		
Rensselaer	Ponding, wetness.	Ponding, wetness, trafficability limitation.
Treaty	Ponding, wetness.	Ponding, wetness, trafficability limitation.
ReyA:		
Rensselaer	Ponding, wetness.	Ponding, wetness, trafficability limitation.
ReyAQ:		
Rensselaer	Ponding, wetness.	Ponding, wetness, trafficability limitation.
RqaG:		
Rodman	Equipment limitation (slope), limited rooting depth (sand and gravel), high pH, water erosion, wind erosion, low available water capacity.	Equipment limitation (slope), limited rooting depth (sand and gravel), high pH, water erosion, wind erosion, low available water capacity.
RtxAH:		
Rossburg	Flooding, high pH.	Flooding, high pH.
RtxAK:		
Rossburg	Flooding, high pH.	Flooding, high pH.
RywB2:		
Russell	Low pH, crusting, water erosion.	Low pH, water erosion.
SfyA:		
Shircliff	Low pH, crusting.	Low pH.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
SifE:		
Senachwine	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
SifG:		
Senachwine	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
SldAH:		
Shoals	Flooding, wetness, high pH.	Flooding, trafficability limitation, high pH.
SldAW:		
Shoals	Flooding, wetness, high pH.	Flooding, trafficability limitation, high pH.
SnfA:		
Sleeth	Wetness, low pH, crusting.	Trafficability limitation, low pH.
SoaB:		
Spickert	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
SocAH:		
Sloan	Flooding, ponding, wetness, high pH.	Flooding, ponding, wetness, trafficability limitation, high pH.
SocAW:		
Sloan	Flooding, ponding, wetness, high pH.	Flooding, ponding, wetness, trafficability limitation, high pH.
SoeC2:		
Spickert	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
Wrays	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
SolC2:		
Spickert	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
Wrays	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
SolC3:		
Spickert	Wetness, low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
Wrays	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.
StaAV:		
Steff	Flooding, low pH, crusting.	Flooding, low pH.
StdAQ:		
Stendal	Wetness, low pH, crusting.	Trafficability limitation, low pH.
StdAV:		
Stendal	Flooding, wetness, low pH, crusting.	Flooding, trafficability limitation, low pH.
StmB:		
Stonehead	Low pH, water erosion, restricted permeability.	Low pH, water erosion.
SucC2:		
Stonehead	Low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
Coolville	Wetness, low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Low pH, water erosion.
SujD5:		
Stonehead	Equipment limitation (slope), wetness, low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
SulC2:		
Stonehead	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
Wellrock	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity.	Equipment limitation (slope), low pH, water erosion.
SuoAH:		
Stonelick	Flooding, high pH, moderate available water capacity.	Flooding, high pH.
Uaz:		
Udorthents, sandy	Not rated.	Not rated.
Uby:		
Udorthents, loamy	Not rated.	Not rated.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
UemB:		
Urban land	Built-up land.	Built-up land.
Alvin	Low pH, water erosion, wind erosion, moderate available water capacity.	Low pH, water erosion, wind erosion.
Princeton	Low pH, water erosion, wind erosion.	Low pH, water erosion, wind erosion.
UemC:		
Urban land	Built-up land.	Built-up land.
Alvin	Low pH, water erosion, wind erosion, moderate available water capacity.	Low pH, water erosion, wind erosion.
Princeton	Low pH, water erosion, wind erosion.	Low pH, water erosion, wind erosion.
UenA:		
Urban land	Built-up land.	Built-up land.
Fox	Limited rooting depth (sand and gravel), low pH, crusting, moderate available water capacity.	Limited rooting depth (sand and gravel), low pH.
UenB:		
Urban land	Built-up land.	Built-up land.
Fox	Limited rooting depth (sand and gravel), low pH, crusting, water erosion, moderate available water capacity.	Limited rooting depth (sand and gravel), low pH, water erosion.
UepC:		
Urban land	Built-up land.	Built-up land.
Fox	Limited rooting depth (sand and gravel), low pH, water erosion, wind erosion, moderate available water capacity.	Limited rooting depth (sand and gravel), low pH, water erosion, wind erosion.
Casco	Limited rooting depth (sand and gravel), low pH, high pH, water erosion, wind erosion, low available water capacity.	Limited rooting depth (sand and gravel), low pH, high pH, water erosion, wind erosion, low available water capacity.
UfcB:		
Urban land	Built-up land.	Built-up land.
Cincinnati	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.
Nabb	Limited rooting depth (fragipan), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (fragipan), low pH, water erosion.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
UfdA:		
Urban land	Built-up land.	Built-up land.
Cobbsfork	Ponding, wetness, low pH, crusting, restricted permeability.	Ponding, wetness, trafficability limitation, low pH.
Avonburg	Wetness, low pH, crusting, restricted permeability.	Trafficability limitation, low pH.
UfnA:		
Urban land	Built-up land.	Built-up land.
Crosby	Wetness, limited rooting depth (dense till), low pH, crusting, moderate available water capacity, restricted permeability.	Trafficability limitation, limited rooting depth (dense till), low pH.
UfoA:		
Urban land	Built-up land.	Built-up land.
Cyclone	Ponding, wetness, low pH.	Ponding, wetness, trafficability limitation, low pH.
UfxA:		
Urban land	Built-up land.	Built-up land.
Fincastle	Wetness, low pH, crusting.	Trafficability limitation, low pH.
UfyB:		
Urban land	Built-up land.	Built-up land.
Fincastle	Wetness, low pH, crusting, water erosion.	Trafficability limitation, low pH, water erosion.
Russell	Low pH, crusting, water erosion.	Low pH, water erosion.
UhyA:		
Urban land	Built-up land.	Built-up land.
Martinsville	Low pH, crusting.	Low pH.
UkbC:		
Urban land	Built-up land.	Built-up land.
Miami	Limited rooting depth (dense till), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (dense till), low pH, water erosion.
UkpA:		
Urban land	Built-up land.	Built-up land.
Ockley	Low pH, crusting.	Low pH.
UkqA:		
Urban land	Built-up land.	Built-up land.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
UkqA:		
Nineveh	Limited rooting depth (sand and gravel), wind erosion, moderate available water capacity.	Limited rooting depth (sand and gravel), wind erosion.
UkqB:		
Urban land	Built-up land.	Built-up land.
Nineveh	Limited rooting depth (sand and gravel), wind erosion, moderate available water capacity.	Limited rooting depth (sand and gravel), wind erosion.
UmqA:		
Urban land	Built-up land.	Built-up land.
Sleeth	Wetness, low pH, crusting.	Trafficability limitation, low pH.
UnnA:		
Urban land	Built-up land.	Built-up land.
Westland	Ponding, wetness.	Ponding, wetness, trafficability limitation.
Usl:		
Udorthents, rubbish	Not rated.	Not rated.
W:		
Water	Water.	Water.
WaaAV:		
Wakeland	Flooding, wetness, low pH, crusting.	Flooding, trafficability limitation, low pH.
WaaAW:		
Wakeland	Flooding, wetness, low pH, crusting.	Flooding, trafficability limitation, low pH.
WacAW:		
Wakeland	Flooding, wetness, low pH, crusting.	Flooding, trafficability limitation, low pH.
Birds	Flooding, ponding, wetness, low pH, crusting.	Flooding, ponding, wetness, trafficability limitation, low pH.
WbiAW:		
Wilbur	Flooding, low pH, crusting.	Flooding, low pH.
Wakeland	Flooding, wetness, low pH, crusting.	Flooding, trafficability limitation, low pH.
WdlC2:		
Wawaka	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.
WdrB2:		
Wawaka	Low pH, crusting, water erosion, moderate available water capacity.	Low pH, water erosion.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
WokAW:		
Wilbur	Flooding, low pH, crusting.	Flooding, low pH.
WolAV:		
Wilhite	Flooding, ponding, wetness, low pH, clodding, moderate available water capacity, restricted permeability.	Flooding, ponding, wetness, trafficability limitation, low pH.
WprAV:		
Wirt	Flooding, low pH, crusting.	Flooding, low pH.
WprAW:		
Wirt	Flooding, low pH, crusting.	Flooding, low pH.
WqlA:		
Westland	Ponding, wetness.	Ponding, wetness, trafficability limitation.
WqlAQ:		
Westland	Ponding, wetness.	Ponding, wetness, trafficability limitation.
WsuA:		
Whitaker	Wetness, low pH, crusting.	Trafficability limitation, low pH.
WsyAQ:		
Whitaker	Wetness, low pH, wind erosion.	Trafficability limitation, low pH, wind erosion.
WufB2:		
Williamstown	Limited rooting depth (dense till), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (dense till), low pH, water erosion.
XabB2:		
Xenia	Low pH, crusting, water erosion.	Low pH, water erosion.
XfuB2:		
Miami	Limited rooting depth (dense till), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (dense till), low pH, water erosion.
Rainsville	Low pH, crusting, water erosion.	Low pH, water erosion.
XrbC2:		
Miami	Limited rooting depth (dense till), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Limited rooting depth (dense till), low pH, water erosion.
Rainsville	Low pH, crusting, water erosion.	Low pH, water erosion.

Table 5.--Main Cropland and Pastureland Limitations and Hazards--Continued

Soil name and map symbol	Cropland limitations and hazards	Pastureland limitations and hazards
XrkD2:		
Miami	Equipment limitation (slope), limited rooting depth (dense till), low pH, crusting, water erosion, low available water capacity, restricted permeability.	Equipment limitation (slope), limited rooting depth (dense till), low pH, water erosion, low available water capacity.
Kendallville	Equipment limitation (slope), low pH, crusting, water erosion, moderate available water capacity, restricted permeability.	Equipment limitation (slope), low pH, water erosion.
ZboA:		
Zipp	Ponding, wetness, low pH, clodding, moderate available water capacity, restricted permeability.	Ponding, wetness, trafficability limitation, low pH.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
AddA---------- Avonburg	2w	15	40	46	3.8	7.6
AddB2---------- Avonburg	2e	110	39	44	3.6	7.2
AfsB---------- Alvin, Princeton	2e	92	32	37	3.0	6.0
AfsC2---------- Alvin, Princeton	3e	79	28	32	2.6	5.2
AmkA---------- Ayrshire	2w	116	40	47	3.8	7.6
BbhA---------- Bartle	2w	115	40	46	3.8	7.6
BbiB---------- Bartle, Pekin	2e	110	38	46	3.6	7.2
BcrAW---------- Beanblossom	2w	87	31	30	2.9	5.8
BdhAH---------- Bellcreek	3w	117	41	---	3.9	7.8
BfbAH---------- Bellcreek	3w	117	41	1	3.9	7.8
BgeAW---------- Birds	3w	125	44	44	4.1	8.2
BlgC2---------- Blocher, Cincinnati	3e	91	32	37	2.9	5.8
BlgC3---------- Blocher, Cincinnati	4e	85	30	36	2.8	5.6
BlhD2---------- Blocher, Bonnell	4e	74	26	31	2.4	4.8
BluC---------- Bloomfield, Alvin	3e	63	22	26	2.1	4.2
BnuD3---------- Bonnell, Hickory, Blocher	6e	65	23	27	2.1	4.2
BobE5---------- Bonnell, gullied, Hickory, gullied	7e	---	---	---	---	---
BodAV---------- Bonnie	3w	100	35	---	3.3	6.6

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
CldB2---------- Cincinnati, Blocher	2e	97	34	42	3.2	6.4
ClfA---------- Cobbsfork	3w	108	38	43	3.6	7.2
CmbAW---------- Cohoctah	2w	112	40	40	3.7	7.4
CmzA---------- Cliftycreek	1	115	40	46	3.8	7.6
CmzB2---------- Cliftycreek	2e	110	38	44	3.6	7.2
CmzC2---------- Cliftycreek	3e	100	35	4	3.3	6.6
ColD2---------- Coolville, Rarden, Stonehead	4e	44	16	20	1.5	3.0
ConC3---------- Coolville, Rarden	4e	49	17	22	1.6	3.2
CudA---------- Crosby	2w	106	37	47	3.5	7.0
CulB---------- Crosby, Williamstown	2w	108	38	48	3.5	7.0
CxdA---------- Cyclone	2w	151	53	61	5.0	10.0
DbqE---------- Deam, very deep	6e	50	18	23	1.7	3.4
EcyAH---------- Eel	2w	111	39	---	3.7	7.3
EcyAW---------- Eel	2w	116	41	41	3.8	7.6
EdeAW---------- Eel	2w	115	40	40	3.8	7.6
EepAQ---------- Elkinsville	1	114	40	46	3.8	7.6
FdbA---------- Fincastle	2w	130	46	58	4.3	8.6
FdqB---------- Fincastle, Xenia	2w	126	44	56	4.2	8.4
FexA---------- Fox	2s	95	34	45	3.1	6.2
FexAQ---------- Fox	2s	96	34	45	3.2	6.4

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
FexB2---------- Fox	2e	90	32	43	3.0	6.0
FgqC3---------- Fox, Casco	4e	57	20	28	1.9	3.8
GccAH---------- Genesee	2w	110	39	---	3.6	7.2
GccAW---------- Genesee	2w	115	41	41	3.8	7.6
GcpAW---------- Genesee	2w	115	40	40	3.8	7.6
GgbG---------- Gilwood, Brownstown	7e	---	---	---	---	---
GgfD2---------- Gilwood, Wrays	6e	52	18	21	1.7	3.4
HcgAW---------- Haymond	2w	122	43	42	4.0	8.0
HctAW---------- Haymond, Wirt	2w	114	40	40	3.8	7.6
HeoF---------- Hickory	7e	---	---	---	---	---
HleAW---------- Holton	2w	105	37	36	3.5	7.0
KugG---------- Kurtz, Gnawbone	7e	---	---	---	---	---
LeaA---------- Lauer	2w	132	46	53	4.4	8.8
MecAQ---------- Martinsville	2e	118	42	47	3.9	7.8
MecB---------- Martinsville	2e	118	41	48	3.9	7.8
MfwA---------- Martinsville, sandy substratum	1	120	42	48	4.0	8.0
MfwAQ---------- Martinsville, sandy substratum	1	120	42	48	4.0	8.0
MfwB2---------- Martinsville, sandy substratum	2e	114	40	46	3.8	7.6
MfxA---------- Martinsville, sandy substratum	2s	90	32	41	3.0	6.0

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
MhuA---------- McGary	3w	99	35	40	3.3	6.6
MhyB---------- Medora	2e	87	31	39	2.9	5.8
MhyC2---------- Medora	3e	74	26	34	2.5	5.0
MjjAH---------- Medway	2w	120	42	---	4.0	8.0
MmoC3---------- Miami	4e	90	32	42	3.0	6.0
MmoD3---------- Miami	6e	76	26	34	2.5	5.0
MnpB2---------- Miami	2e	106	37	47	3.5	7.0
MnpC2---------- Miami	3e	97	34	44	3.2	6.4
MnpD2---------- Miami	4e	81	28	37	2.7	5.4
MqbA---------- Milton	2s	76	27	31	2.5	5.0
MqbB2---------- Milton	2e	70	25	28	2.3	4.6
MqbC2---------- Milton	3e	60	21	24	2.0	4.0
MrbF---------- Milton, Rock outcrop	7e	---	---	---	---	0.0
NaaB2---------- Nabb	2e	93	33	41	3.1	6.2
NpcA---------- Nineveh	2s	89	31	44	2.9	5.8
NpcAQ---------- Nineveh	2s	89	31	43	2.9	5.8
NpeA---------- Nineveh	2s	96	33	48	3.2	6.4
NpeAQ---------- Nineveh	2s	96	33	48	3.2	6.4
NpeB2---------- Nineveh	2e	91	32	45	3.0	6.0
ObaA---------- Ockley	1	101	35	41	3.3	6.7
OfaAW---------- Oldenburg	2w	105	37	35	3.5	7.0

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
Omz. Orthents, earthen dam						
PcrB2 Pekin	2e	98	34	43	3.2	6.4
PcrC2 Pekin	3e	81	28	36	2.6	5.2
PcrC3 Pekin	4e	78	27	34	2.5	5.0
PhaA Peoga	3w	108	38	43	3.6	7.2
PlpAV Piopolis	3w	105	37	---	3.5	7.0
Pml. Pits, quarry						
PnnD Pike, Chetwynd	4e	88	31	39	2.9	5.8
PnnF Pike, Chetwynd	7e	---	---	---	---	---
Ppu. Pits, sand and gravel						
RctD3 Rarden, Coolville	7e	30	11	13	1.0	2.0
RehA Rensselaer, Treaty	2w	144	51	58	4.8	9.6
ReyA Rensselaer	2w	149	53	60	4.9	9.8
ReyAQ Rensselaer	2w	149	53	60	4.9	9.8
RqaG Rodman	7e	---	---	---	---	---
RtxAH Rossburg	2w	120	42	---	4.0	8.0
RtxAK Rossburg	2w	125	44	45	4.1	8.2
RywB2 Russell	2e	114	40	52	3.8	7.6
SfyA Shircliff	2w	94	33	42	3.1	6.2
SifE Senachwine	6e	72	26	32	2.4	4.8

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
SifG---------- Senachwine	7e	---	---	---	---	---
SldAH---------- Shoals	2w	121	42	---	4.0	8.0
SldAW---------- Shoals	2w	126	45	45	4.2	8.4
SnfA---------- Sleeth	2w	121	42	48	4.0	8.0
SoaB---------- Spickert	2e	99	35	44	3.3	6.6
SocAH---------- Sloan	3w	128	45	---	4.2	8.4
SocAW---------- Sloan	3w	133	47	47	4.4	8.8
SoeC2---------- Spickert, Wrays	3e	75	26	33	2.5	5.0
SolC2---------- Spickert, Wrays	3e	77	27	33	2.5	5.0
SolC3---------- Spickert, Wrays	4e	72	26	31	2.4	4.8
StaAV---------- Steff	2w	110	38	---	3.6	7.2
StdAQ---------- Stendal	2w	120	42	48	4.0	8.0
StdAV---------- Stendal	2w	110	39	---	3.6	7.2
StmB---------- Stonehead	2e	106	38	44	3.5	7.0
SucC2---------- Stonehead, Coolville	3e	82	28	33	2.7	5.4
SujD5---------- Stonehead, gullied	6e	---	---	---	---	---
SulC2---------- Stonehead, Wellrock	3e	84	30	34	2.8	5.6
SuoAH---------- Stonelick	3w	80	28	---	2.6	5.3
Uaz. Udorthents, sandy						
Uby. Udorthents, loamy						

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
UemB. Urban land, Alvin, Princeton						
UemC. Urban land, Alvin, Princeton						
UenA. Urban land, Fox						
UenB. Urban land, Fox						
UepC. Urban land, Fox, Casco						
UfcB. Urban land, Cincinnati, Nabb						
UfdA. Urban land, Cobbsfork, Avonburg						
UfnA. Urban land, Crosby						
UfoA. Urban land, Cyclone						
UfxA. Urban land, Fincastle						
UfyB. Urban land, Fincastle, Russell						
UhyA. Urban land, sandy substratum, Martinsville, sandy substratum						
UkbC. Urban land, Miami						
UkpA. Urban land, Ockley						
UkqA. Urban land, Nineveh						
UkqB. Urban land, Nineveh						
UmqA. Urban land, Sleeth						

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
UnnA. Urban land, Westland						
Usl. Udorthents, rubbish						
W. Water						
WaaAV---------- Wakeland	2w	121	43	0	4.0	8.0
WaaAW---------- Wakeland	2w	125	44	43	4.1	8.2
WacAW---------- Wakeland, Birds	2w	125	44	43	4.1	8.2
WbiAW---------- Wilbur, Wakeland	2w	124	43	41	4.1	8.2
WdlC2---------- Wawaka	3e	94	33	38	3.1	6.2
WdrB2---------- Wawaka	2e	104	37	42	3.4	6.8
WokAW---------- Wilbur	2w	125	44	43	4.1	8.2
WolAV---------- Wilhite	4w	82	29	---	2.7	5.4
WprAV---------- Wirt	2w	98	34	3	3.2	6.4
WprAW---------- Wirt	2w	102	36	34	3.4	6.8
WqlA---------- Westland	2w	139	49	56	4.6	9.2
WqlAQ---------- Westland	2w	139	49	56	4.6	9.2
WsuA---------- Whitaker	2w	130	46	52	4.3	8.6
WsyAQ---------- Whitaker	2w	124	43	50	4.1	8.2
WufB2---------- Williamstown	2e	106	37	47	3.5	7.0
XabB2---------- Xenia	2e	115	40	52	3.8	7.6
XfuB2---------- Miami, Rainsville	2e	109	38	49	3.6	7.2

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Pasture
		Bu	Bu	Bu	Tons	AUM*
XrbC2---------- Miami, Rainsville	3e	102	36	45	3.4	6.8
XrkD2---------- Miami, Kendallville	4e	80	28	36	2.6	5.3
ZboA---------- Zipp	3w	112	40	45	3.7	7.4

*Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Table 7.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name.)

Map symbol	Soil name
AddA	Avonburg silt loam, 0 to 2 percent slopes (where drained)
AddB2	Avonburg silt loam, 2 to 4 percent slopes, eroded (where drained)
AfsB	Alvin-Princeton fine sandy loams, 2 to 6 percent slopes
AmkA	Ayrshire fine sandy loam, 0 to 2 percent slopes (where drained)
BbhA	Bartle silt loam, 0 to 2 percent slopes (where drained)
BbiB	Bartle-Pekin silt loams, 2 to 6 percent slopes (where drained)
BcrAW	Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration
BdhAH	Bellcreek silty clay loam, 0 to 1 percent slopes, frequently flooded, brief duration (where drained and either protected from flooding or not frequently flooded during the growing season)
BfbAH	Bellcreek silt loam, 0 to 1 percent slopes, frequently flooded, brief duration (where drained and either protected from flooding or not frequently flooded during the growing season)
BgeAW	Birds silt loam, 0 to 1 percent slopes, occasionally flooded, very brief duration (where drained)
BodAV	Bonnie silt loam, 0 to 1 percent slopes, frequently flooded, very brief duration (where drained and either protected from flooding or not frequently flooded during the growing season)
CldB2	Cincinnati-Blocher silt loams, 2 to 6 percent slopes, eroded
ClfA	Cobbsfork silt loam, 0 to 1 percent slopes (where drained)
CmbAW	Cohoctah loam, 0 to 1 percent slopes, occasionally flooded, very brief duration (where drained)
CmzA	Cliftycreek silt loam, 0 to 2 percent slopes
CmzB2	Cliftycreek silt loam, 2 to 6 percent slopes, eroded
CudA	Crosby silt loam, 0 to 2 percent slopes (where drained)
CulB	Crosby-Williamstown silt loams, 2 to 4 percent slopes (where drained)
CxdA	Cyclone silty clay loam, 0 to 1 percent slopes (where drained)
EcyAH	Eel loam, 0 to 2 percent slopes, frequently flooded, brief duration (where protected from flooding or not frequently flooded during the growing season)
EcyAW	Eel loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
EdeAW	Eel silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
EepAQ	Elkinsville silt loam, 0 to 2 percent slopes, rarely flooded
FdbA	Fincastle silt loam, 0 to 2 percent slopes (where drained)
FdqB	Fincastle-Xenia silt loams, 2 to 4 percent slopes (where drained)
FexA	Fox loam, 0 to 2 percent slopes
FexAQ	Fox loam, 0 to 2 percent slopes, rarely flooded
FexB2	Fox loam, 2 to 6 percent slopes, eroded
GccAH	Genesee loam, 0 to 2 percent slopes, frequently flooded, brief duration (where protected from flooding or not frequently flooded during the growing season)
GccAW	Genesee loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
GcpAW	Genesee silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
HcgAW	Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
HctAW	Haymond-Wirt silt loams, 0 to 2 percent slopes, occasionally flooded, very brief duration
HleAW	Holton silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration (where drained)
LeaA	Lauer silt loam, 0 to 2 percent slopes (where drained)
MecAQ	Martinsville loam, 0 to 2 percent slopes, rarely flooded
MecB	Martinsville loam, 2 to 6 percent slopes
MfwA	Martinsville loam, sandy substratum, 0 to 2 percent slopes
MfwAQ	Martinsville loam, sandy substratum, 0 to 2 percent slopes, rarely flooded
MfwB2	Martinsville loam, sandy substratum, 2 to 6 percent slopes, eroded
MfxA	Martinsville sandy loam, sandy substratum, 0 to 2 percent slopes
MhuA	McGary silt loam, 0 to 2 percent slopes (where drained)
MhyB	Medora silt loam, 2 to 6 percent slopes
MjjAH	Medway silty clay loam, 0 to 2 percent slopes, frequently flooded, brief duration (where protected from flooding or not frequently flooded during the growing season)
MnpB2	Miami silt loam, 2 to 6 percent slopes, eroded
MqbA	Milton silt loam, 0 to 2 percent slopes
MqbB2	Milton silt loam, 2 to 6 percent slopes, eroded

Table 7.--Prime Farmland--Continued

Map symbol	Soil name
NaaB2	Nabb silt loam, 2 to 6 percent slopes, eroded
NpcA	Nineveh gravelly sandy loam, 0 to 2 percent slopes
NpcAQ	Nineveh gravelly sandy loam, 0 to 2 percent slopes, rarely flooded
NpeA	Nineveh sandy loam, 0 to 2 percent slopes
NpeAQ	Nineveh sandy loam, 0 to 2 percent slopes, rarely flooded
NpeB2	Nineveh sandy loam, 2 to 6 percent slopes, eroded
ObaA	Ockley loam, 0 to 2 percent slopes
OfaAW	Oldenburg silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
PcrB2	Pekin silt loam, 2 to 6 percent slopes, eroded
PhaA	Peoga silt loam, 0 to 1 percent slopes (where drained)
PlpAV	Piopolis silty clay loam, 0 to 1 percent slopes, frequently flooded, very brief duration (where drained and either protected from flooding or not frequently flooded during the growing season)
RehA	Rensselaer-Treaty silt loams, 0 to 1 percent slopes (where drained)
ReyA	Rensselaer loam, 0 to 1 percent slopes (where drained)
ReyAQ	Rensselaer loam, 0 to 1 percent slopes, rarely flooded (where drained)
RtxAH	Rossburg silt loam, 0 to 2 percent slopes, frequently flooded, brief duration (where protected from flooding or not frequently flooded during the growing season)
RtxAK	Rossburg silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration
RywB2	Russell silt loam, 2 to 6 percent slopes, eroded
SfyA	Shircliff silt loam, 0 to 2 percent slopes
SldAH	Shoals silt loam, 0 to 2 percent slopes, frequently flooded, brief duration (where drained and either protected from flooding or not frequently flooded during the growing season)
SldAW	Shoals silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration (where drained)
SnfA	Sleeth loam, 0 to 2 percent slopes (where drained)
SoaB	Spickert silt loam, 2 to 6 percent slopes
SocAH	Sloan silty clay loam, 0 to 1 percent slopes, frequently flooded, brief duration (where drained and either protected from flooding or not frequently flooded during the growing season)
SocAW	Sloan silty clay loam, 0 to 1 percent slopes, occasionally flooded, very brief duration (where drained)
StaAV	Steff silt loam, 0 to 2 percent slopes, frequently flooded, very brief duration (where protected from flooding or not frequently flooded during the growing season)
StdAQ	Stendal silt loam, 0 to 2 percent slopes, rarely flooded (where drained)
StdAV	Stendal silt loam, 0 to 2 percent slopes, frequently flooded, very brief duration (where drained and either protected from flooding or not frequently flooded during the growing season)
StmB	Stonehead silt loam, 2 to 6 percent slopes
SuoAH	Stonelick fine sandy loam, 0 to 2 percent slopes, frequently flooded, brief duration (where protected from flooding or not frequently flooded during the growing season)
WaaAV	Wakeland silt loam, 0 to 2 percent slopes, frequently flooded, very brief duration (where drained and either protected from flooding or not frequently flooded during the growing season)
WaaAW	Wakeland silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration (where drained)
WacAW	Wakeland-Birds silt loams, 0 to 2 percent slopes, occasionally flooded, very brief duration (where drained)
WbiAW	Wilbur-Wakeland silt loams, 0 to 2 percent slopes, occasionally flooded, very brief duration
WdrB2	Wawaka silt loam, 2 to 6 percent slopes, eroded
WokAW	Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
WolAV	Wilhite silty clay, 0 to 1 percent slopes, frequently flooded, very brief duration (where drained and either protected from flooding or not frequently flooded during the growing season)
WprAV	Wirt loam, 0 to 2 percent slopes, frequently flooded, very brief duration (where protected from flooding or not frequently flooded during the growing season)
WprAW	Wirt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration
WqlA	Westland clay loam, 0 to 1 percent slopes (where drained)
WqlAQ	Westland clay loam, 0 to 1 percent slopes, rarely flooded (where drained)
WsuA	Whitaker loam, 0 to 2 percent slopes (where drained)
WsyAQ	Whitaker sandy loam, 0 to 2 percent slopes, rarely flooded (where drained)
WufB2	Williamstown silt loam, 2 to 6 percent slopes, eroded
XabB2	Xenia silt loam, 2 to 6 percent slopes, eroded
XfuB2	Miami-Rainsville silt loams, 2 to 6 percent slopes, eroded
ZboA	Zipp silty clay loam, 0 to 1 percent slopes (where drained)

Table 8.--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
AddA:					
Avonburg	American elder, black chokeberry, common winterberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
AddB2:					
Avonburg	American elder, black chokeberry, common winterberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
AfsB:					
Alvin	American elder, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, northern red oak, Norway spruce, pin oak, swamp white oak, sweetgum, Virginia pine.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree.
Princeton	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.

Table 8.--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
AfsC2:					
Alvin	American elder, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, northern red oak, Norway spruce, pin oak, swamp white oak, sweetgum, Virginia pine.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree.
Princeton	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
AmkA:					
Ayrshire	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
BbhA:					
Bartle	American elder, black chokeberry, common winterberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
BbiB:					
Bartle	American elder, black chokeberry, common winterberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Pekin	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
BcrAW:					
Beanblossom	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
BdhAH:					
Bellcreek	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Downy hawthorn, hackberry, northern white-cedar, overcup oak.	Baldcypress, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
BfbAH:					
Bellcreek	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Downy hawthorn, hackberry, northern white-cedar, overcup oak.	Baldcypress, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
BgeAW:					
Birds	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Downy hawthorn, hackberry, northern white-cedar, overcup oak.	Baldcypress, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
BlgC2:					
Blocher	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
Cincinnati	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
BlgC3:					
Blocher	Black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, northern red oak, Norway spruce, pecan, pin oak, tuliptree, Virginia pine, white ash.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
Cincinnati	American elder, black chokeberry, highbush cranberry, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	Black oak, chinkapin oak, hackberry, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, eastern white pine, green ash, northern red oak, Norway spruce, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
BlhD2:					
Blocher	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
Bonnell	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
BluC:					
Bloomfield	American elder, common juniper, coralberry, highbush cranberry, silky dogwood.	Arrowwood, blackhaw, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	American plum, eastern redcedar, hackberry, serviceberry, Washington hawthorn.	Blackgum, bur oak, eastern white pine, green ash, red maple, river birch, silver maple, Virginia pine.	Eastern cottonwood, imperial Carolina poplar.
Alvin	American elder, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, northern red oak, Norway spruce, pin oak, swamp white oak, sweetgum, Virginia pine.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree.
BnuD3:					
Bonnell	American elder, black chokeberry, highbush cranberry, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	Black oak, chinkapin oak, hackberry, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, eastern white pine, green ash, northern red oak, Norway spruce, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
BnuD3:					
Hickory	Black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, northern red oak, Norway spruce, pecan, pin oak, tuliptree, Virginia pine, white ash.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
Blocher	Black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, northern red oak, Norway spruce, pecan, pin oak, tuliptree, Virginia pine, white ash.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
BobE5:					
Bonnell, gullied	American elder, black chokeberry, highbush cranberry, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	Black oak, chinkapin oak, hackberry, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, eastern white pine, green ash, northern red oak, Norway spruce, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Hickory, gullied.					
BodAV:					
Bonnie	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Downy hawthorn, hackberry, northern white-cedar, overcup oak.	Baldcypress, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
CldB2:					
Cincinnati	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Blocher	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
ClfA:					
Cobbsfork	American elder, black chokeberry, buttonbush, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Green hawthorn, hackberry, northern white-cedar, overcup oak, shingle oak.	Baldcypress, blackgum, bur oak, green ash, Norway spruce, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
CmbAW:					
Cohoctah	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Downy hawthorn, hackberry, northern white-cedar, overcup oak.	Baldcypress, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
CmzA:					
Cliftycreek	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.

Table 8.--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
CmzB2:					
Cliftycreek-------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
CmzC2:					
Cliftycreek-------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
ColD2:					
Coolville---------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Rarden----------	American elder, common juniper, coralberry, highbush cranberry, silky dogwood.	Arrowwood, blackhaw, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	American plum, eastern redcedar, hackberry, serviceberry, Washington hawthorn.	Black oak, blackgum, bur oak, eastern white pine, green ash, red maple, river birch, silver maple, Virginia pine.	Eastern cottonwood, imperial Carolina poplar.
Stonehead---------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
ConC3:					
Coolville---------	American elder, black chokeberry, highbush cranberry, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	Black oak, chinkapin oak, hackberry, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, eastern white pine, green ash, northern red oak, Norway spruce, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Rarden----------	American elder, common juniper, coralberry, highbush cranberry, silky dogwood.	Arrowwood, blackhaw, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	American plum, eastern redcedar, hackberry, serviceberry, Washington hawthorn.	Black oak, blackgum, bur oak, eastern white pine, green ash, red maple, river birch, silver maple, Virginia pine.	Eastern cottonwood, imperial Carolina poplar.
CudA:					
Crosby----------	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
CulB:					
Crosby----------	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Williamstown------	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, roughleaf dogwood, witchhazel.	Eastern redcedar, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, northern red oak, Norway spruce, pin oak, swamp chestnut oak, swamp white oak, tuliptree, white ash, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
CxdA:					
Cyclone	American elder, black chokeberry, buttonbush, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Green hawthorn, hackberry, northern white-cedar, overcup oak, shingle oak.	Baldcypress, blackgum, bur oak, green ash, Norway spruce, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
DbqE:					
Deam, very deep	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
EcyAH:					
Eel	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
EcyAW:					
Eel	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
EdeAW:					
Eel	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
EepAQ:					
Elkinsville	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.

Table 8.--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
FdbA:					
Fincastle	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
FdqB:					
Fincastle	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Xenia	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
FexA:					
Fox	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
FexAQ:					
Fox	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
FexB2:					
Fox	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
FgqC3:					
Fox	American elder, common juniper, highbush cranberry, silky dogwood.	Arrowwood, blackhaw, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	American plum, eastern redcedar, hackberry, serviceberry, Washington hawthorn.	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, red maple, river birch, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar.
Casco	Gray dogwood, redosier dogwood, silky dogwood.	Blackhaw, common chokecherry, hazelnut, nannyberry, roughleaf dogwood.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Bitternut hickory, bur oak, chinkapin oak, green ash, white spruce.	American sycamore, eastern cottonwood, imperial Carolina poplar.
GccAH:					
Genesee	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
GccAW:					
Genesee	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
GcpAW:					
Genesee	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
GgbG:					
Gilwood	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Brownstown	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
GgfD2:					
Gilwood	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Wrays	American elder, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, northern red oak, Norway spruce, pin oak, swamp white oak, sweetgum, Virginia pine.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree.
HcgAW:					
Haymond	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
HctAW:					
Haymond	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
HctAW:					
Wirt	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
HeoF:					
Hickory	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
HleAW:					
Holton	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, pawpaw, roughleaf dogwood.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, overcup oak, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, green ash, pecan, pin oak, Shumard's oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
KugG:					
Kurtz	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Gnawbone	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
LeaA:					
Lauer----------	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
MecAQ:					
Martinsville------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
MecB:					
Martinsville------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
MfwA:					
Martinsville, sandy substratum-	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
MfwAQ:					
Martinsville, sandy substratum-	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.

Table 8.--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
MfwB2:					
Martinsville, sandy substratum-	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
MfxA:					
Martinsville, sandy substratum-	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
MhuA:					
McGary----------	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
MhyB:					
Medora----------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
MhyC2:					
Medora	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
MjjAH:					
Medway	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
MmoC3:					
Miami	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	American plum, black oak, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn, chinkapin oak.	Blackgum, eastern white pine, green ash, northern red oak, Norway spruce, pin oak, red pine, swamp white oak, tuliptree, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
MmoD3:					
Miami	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	American plum, black oak, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn, chinkapin oak.	Blackgum, eastern white pine, green ash, northern red oak, Norway spruce, pin oak, red pine, swamp white oak, tuliptree, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
MnpB2:					
Miami	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, hazelnut, nannyberry, pawpaw, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, northern white-cedar, prairie crabapple, serviceberry, shingle oak, Washington hawthorn.	Black cherry, black walnut, blackgum, northern red oak, Norway spruce, pin oak, red pine, swamp white oak, tuliptree, white ash, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
MnpC2:					
Miami	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, hazelnut, nannyberry, pawpaw, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, northern white-cedar, prairie crabapple, serviceberry, shingle oak, Washington hawthorn.	Black cherry, black walnut, blackgum, northern red oak, Norway spruce, pin oak, red pine, swamp white oak, tuliptree, white ash, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
MnpD2:					
Miami	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, hazelnut, nannyberry, pawpaw, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, northern white-cedar, prairie crabapple, serviceberry, shingle oak, Washington hawthorn.	Black cherry, black walnut, blackgum, northern red oak, Norway spruce, pin oak, red pine, swamp white oak, tuliptree, white ash, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
MqbA:					
Milton	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
MqbB2:					
Milton	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
MqbC2:					
Milton	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
MrbF:					
Milton	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Rock outcrop.					
NaaB2:					
Nabb	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
NpcA:					
Nineveh	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
NpcAQ:					
Nineveh	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
NpeA:					
Nineveh	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
NpeAQ:					
Nineveh	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
NpeB2:					
Nineveh	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
ObaA:					
Ockley	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
OfaAW:					
Oldenburg	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
Omz:					
Orthents, earthen dam.					
PcrB2:					
Pekin	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
PcrC2:					
Pekin	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
PcrC3:					
Pekin	American elder, black chokeberry, highbush cranberry, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	Black oak, chinkapin oak, hackberry, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, eastern white pine, green ash, northern red oak, Norway spruce, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
PhaA:					
Peoga	American elder, black chokeberry, buttonbush, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Green hawthorn, hackberry, northern white-cedar, overcup oak, shingle oak.	Baldcypress, blackgum, bur oak, green ash, Norway spruce, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
PlpAV:					
Piopolis	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Downy hawthorn, hackberry, northern white-cedar, overcup oak.	Baldcypress, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Pml:					
Pits, quarry.					
PnnD:					
Pike	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.

Table 8.--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
PnnD:					
Chetwynd----------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
PnnF:					
Pike----------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
Chetwynd----------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
Ppu:					
Pits, sand and gravel.					
RctD3:					
Rarden----------	American elder, common juniper, coralberry, highbush cranberry, silky dogwood.	Arrowwood, blackhaw, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	American plum, eastern redcedar, hackberry, serviceberry, Washington hawthorn.	Black oak, blackgum, bur oak, eastern white pine, green ash, red maple, river birch, silver maple, Virginia pine.	Eastern cottonwood, imperial Carolina poplar.
Coolville---------	American elder, black chokeberry, highbush cranberry, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	Black oak, chinkapin oak, hackberry, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, eastern white pine, green ash, northern red oak, Norway spruce, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
RehA:					
Rensselaer	American elder, black chokeberry, buttonbush, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Green hawthorn, hackberry, northern white-cedar, overcup oak, shingle oak.	Baldcypress, blackgum, bur oak, green ash, Norway spruce, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Treaty	American elder, black chokeberry, buttonbush, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Green hawthorn, hackberry, northern white-cedar, overcup oak, shingle oak.	Baldcypress, blackgum, bur oak, green ash, Norway spruce, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
ReyA:					
Rensselaer	American elder, black chokeberry, buttonbush, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Green hawthorn, hackberry, northern white-cedar, overcup oak, shingle oak.	Baldcypress, blackgum, bur oak, green ash, Norway spruce, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
ReyAQ:					
Rensselaer	American elder, black chokeberry, buttonbush, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Green hawthorn, hackberry, northern white-cedar, overcup oak, shingle oak.	Baldcypress, blackgum, bur oak, green ash, Norway spruce, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
RqaG:					
Rodman	Gray dogwood, redosier dogwood, silky dogwood.	Blackhaw, common chokecherry, hazelnut, nannyberry, pawpaw, roughleaf dogwood.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Bitternut hickory, bur oak, chinkapin oak, white spruce.	American sycamore, eastern cottonwood, green ash, imperial Carolina poplar.
RtxAH:					
Rossburg	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
RtxAK:					
Rossburg----------	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
RywB2:					
Russell----------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
SfyA:					
Shircliff---------	American elder, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, northern red oak, Norway spruce, pin oak, swamp white oak, sweetgum, Virginia pine.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree.
SifE:					
Senachwine--------	American elder, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, northern red oak, Norway spruce, pin oak, swamp white oak, sweetgum, Virginia pine.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree.
SifG:					
Senachwine--------	American elder, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, northern red oak, Norway spruce, pin oak, swamp white oak, sweetgum, Virginia pine.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree.

Table 8.--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
SldAH:					
Shoals	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, pawpaw, roughleaf dogwood.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, overcup oak, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, green ash, pecan, pin oak, Shumard's oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
SldAW:					
Shoals	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, pawpaw, roughleaf dogwood.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, overcup oak, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, green ash, pecan, pin oak, Shumard's oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
SnfA:					
Sleeth	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
SoaB:					
Spickert	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
SocAH:					
Sloan	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Downy hawthorn, hackberry, northern white-cedar, overcup oak.	Baldcypress, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
SocAW:					
Sloan	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Downy hawthorn, hackberry, northern white-cedar.	Blackgum, bur oak, green ash, pin oak, swamp white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
SoeC2:					
Spickert	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Wrays	American elder, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, northern red oak, Norway spruce, pin oak, swamp white oak, sweetgum, Virginia pine.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree.
SolC2:					
Spickert	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Wrays	American elder, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, northern red oak, Norway spruce, pin oak, swamp white oak, sweetgum, Virginia pine.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree.

Table 8.--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
SolC3:					
Spickert	American elder, black chokeberry, highbush cranberry, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	Black oak, chinkapin oak, hackberry, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, eastern white pine, green ash, northern red oak, Norway spruce, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Wrays	Black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, silky dogwood.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Black oak, blackgum, eastern white pine, green ash, northern red oak, Norway spruce, pin oak, swamp white oak, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
StaAV:					
Steff	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
StdAQ:					
Stendal	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
StdAV:					
Stendal	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, pawpaw, roughleaf dogwood.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, overcup oak, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, green ash, pecan, pin oak, Shumard's oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
StmB:					
Stonehead---------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
SucC2:					
Stonehead---------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Coolville---------	American elder, black chokeberry, highbush cranberry, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	Black oak, chinkapin oak, hackberry, northern white-cedar, Washington hawthorn.	Blackgum, bur oak, eastern white pine, green ash, northern red oak, Norway spruce, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
SujD5:					
Stonehead, gullied					
SulC2:					
Stonehead---------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
SulC2:					
Wellrock	American elder, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, northern red oak, Norway spruce, pin oak, swamp white oak, sweetgum, Virginia pine.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree.
SuoAH:					
Stonelick	Gray dogwood, redosier dogwood, silky dogwood.	Nannyberry, pawpaw, roughleaf dogwood.	Hackberry, northern white-cedar, Washington hawthorn.	Bitternut hickory, black walnut, bur oak.	American sycamore, eastern cottonwood, green ash, imperial Carolina poplar.
Uaz:					
Udorthents, sandy.					
Uby:					
Udorthents, loamy.					
UemB:					
Urban land.					
Alvin	American elder, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, northern red oak, Norway spruce, pin oak, swamp white oak, sweetgum, Virginia pine.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree.
Princeton	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
UemC:					
Urban land.					
Alvin	American elder, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazel alder, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, northern red oak, Norway spruce, pin oak, swamp white oak, sweetgum, Virginia pine.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree.

Table 8.--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
UemC:					
Princeton	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
UenA:					
Urban land.					
Fox	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
UenB:					
Urban land.					
Fox	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
UepC:					
Urban land.					
Fox	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Casco	Gray dogwood, redosier dogwood, silky dogwood.	Blackhaw, common chokecherry, hazelnut, nannyberry, pawpaw, roughleaf dogwood.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Bitternut hickory, bur oak, chinkapin oak, white spruce.	American sycamore, eastern cottonwood, green ash, imperial Carolina poplar.
UfcB:					
Urban land.					

Table 8.--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
UfcB:					
Cincinnati	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Nabb	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, prairie crabapple, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, witchhazel.	American plum, eastern redcedar, hackberry, northern white-cedar, serviceberry, Washington hawthorn.	Baldcypress, black oak, blackgum, bur oak, chinkapin oak, green ash, northern red oak, Norway spruce, tuliptree, Virginia pine, white oak, white spruce.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
UfdA:					
Urban land.					
Cobbsfork	American elder, black chokeberry, buttonbush, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Green hawthorn, hackberry, northern white-cedar, overcup oak, shingle oak.	Baldcypress, blackgum, bur oak, green ash, Norway spruce, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Avonburg	American elder, black chokeberry, common winterberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
UfnA:					
Urban land.					

Table 8.--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
UfnA:					
Crosby	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
UfoA:					
Urban land.					
Cyclone	American elder, black chokeberry, buttonbush, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Green hawthorn, hackberry, northern white-cedar, shingle oak.	Blackgum, bur oak, green ash, Norway spruce, pin oak, swamp white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
UfxA:					
Urban land.					
Fincastle	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
UfyB:					
Urban land.					
Fincastle	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
UfyB:					
Russell	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
UhyA:					
Urban land.					
Martinsville, sandy substratum	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
UkbC:					
Urban land.					
Miami	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, roughleaf dogwood, witchhazel.	Eastern redcedar, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, northern red oak, Norway spruce, pin oak, swamp chestnut oak, swamp white oak, tuliptree, white ash, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
UkpA:					
Urban land.					
Ockley	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
UkqA:					
Urban land.					

Table 8.--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
UkqA:					
Nineveh	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
UkqB:					
Urban land.					
Nineveh	American elder, black chokeberry, common juniper, coralberry, highbush cranberry, silky dogwood.	Hazelnut, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac.	Eastern redcedar, hackberry, northern white-cedar, Washington hawthorn.	Baldcypress, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, Norway spruce, Virginia pine, white oak.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
UmqA:					
Urban land.					
Sleeth	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
UnnA:					
Urban land.					
Westland	American elder, black chokeberry, buttonbush, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Green hawthorn, hackberry, northern white-cedar, overcup oak, shingle oak.	Baldcypress, blackgum, bur oak, green ash, Norway spruce, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Usl:					
Udorthents, rubbish.					
W:					
Water.					

Table 8.--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
WaaAV:					
Wakeland----------	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, pawpaw, roughleaf dogwood.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, overcup oak, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, green ash, pecan, pin oak, Shumard's oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
WaaAW:					
Wakeland----------	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, pawpaw, roughleaf dogwood.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, overcup oak, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, green ash, pecan, pin oak, Shumard's oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
WacAW:					
Wakeland----------	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, pawpaw, roughleaf dogwood.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, overcup oak, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, green ash, pecan, pin oak, Shumard's oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
Birds----------	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Downy hawthorn, hackberry, northern white-cedar, overcup oak.	Baldcypress, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
WbiAW:					
Wilbur----------	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
Wakeland----------	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, pawpaw, roughleaf dogwood.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, overcup oak, shingle oak, Washington hawthorn.	Baldcypress, blackgum, cherrybark oak, green ash, pecan, pin oak, Shumard's oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
WdlC2:					
Wawaka	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
WdrB2:					
Wawaka	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
WokAW:					
Wilbur	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
WolAV:					
Wilhite	American elder, black chokeberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Downy hawthorn, hackberry, northern white-cedar, overcup oak.	Baldcypress, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
WprAV:					
Wirt	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
WprAW:					
Wirt	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, hazel alder, prairie crabapple, roughleaf dogwood, wild sweet crab.	Cockspur hawthorn, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black walnut, blackgum, bur oak, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, green ash, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
WqlA:					
Westland	American elder, black chokeberry, buttonbush, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Green hawthorn, hackberry, northern white-cedar, overcup oak, shingle oak.	Baldcypress, blackgum, bur oak, green ash, Norway spruce, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
WqlAQ:					
Westland	American elder, black chokeberry, buttonbush, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Green hawthorn, hackberry, northern white-cedar, overcup oak, shingle oak.	Baldcypress, blackgum, bur oak, green ash, Norway spruce, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
WsuA:					
Whitaker	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.
WsyAQ:					
Whitaker	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, prairie crabapple, roughleaf dogwood, witchhazel.	Common persimmon, eastern redcedar, hackberry, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, Norway spruce, pecan, pin oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, white ash.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
WufB2:					
Williamstown------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, hazelnut, nannyberry, pawpaw, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, northern white-cedar, prairie crabapple, serviceberry, shingle oak, Washington hawthorn.	Black cherry, black walnut, blackgum, northern red oak, Norway spruce, pin oak, red pine, swamp white oak, tuliptree, white ash, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
XabB2:					
Xenia----------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
XfuB2:					
Miami----------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, hazelnut, nannyberry, pawpaw, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, northern white-cedar, prairie crabapple, serviceberry, shingle oak, Washington hawthorn.	Black cherry, black walnut, blackgum, northern red oak, Norway spruce, pin oak, red pine, swamp white oak, tuliptree, white ash, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
Rainsville--------	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
XrbC2:					
Miami----------	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, roughleaf dogwood, witchhazel.	Eastern redcedar, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, northern red oak, Norway spruce, pin oak, swamp chestnut oak, swamp white oak, tuliptree, white ash, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple.

Table 8.--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
XrbC2:					
Rainsville	American elder, black chokeberry, common juniper, coralberry, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, hazelnut, nannyberry, roughleaf dogwood, shining sumac, smooth sumac, staghorn sumac, wild sweet crab, witchhazel.	American plum, common persimmon, eastern redcedar, hackberry, northern white-cedar, prairie crabapple, serviceberry, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, cherrybark oak, northern red oak, Norway spruce, pecan, pin oak, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple, tuliptree, white ash.
XrkD2:					
Miami	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, roughleaf dogwood, witchhazel.	Eastern redcedar, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, northern red oak, Norway spruce, pin oak, swamp chestnut oak, swamp white oak, tuliptree, white ash, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
Kendallville	American elder, black chokeberry, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Arrowwood, blackhaw, cockspur hawthorn, hazel alder, nannyberry, pawpaw, roughleaf dogwood, witchhazel.	Eastern redcedar, northern white-cedar, shingle oak, Washington hawthorn.	Baldcypress, black cherry, black walnut, blackgum, northern red oak, Norway spruce, pin oak, swamp chestnut oak, swamp white oak, tuliptree, white ash, white oak.	Eastern cottonwood, eastern white pine, green ash, imperial Carolina poplar, red maple, river birch, silver maple.
ZboA:					
Zipp	American elder, black chokeberry, buttonbush, gray dogwood, highbush cranberry, ninebark, redosier dogwood, silky dogwood, spicebush.	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood.	Green hawthorn, hackberry, northern white-cedar, overcup oak, shingle oak.	Baldcypress, blackgum, bur oak, green ash, Norway spruce, pin oak, swamp white oak, sweetgum.	Eastern cottonwood, imperial Carolina poplar, red maple, river birch, silver maple.

Table 9.--Forestland Productivity

(Absence of an entry indicates that information was not available.)

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
AddA:				
Avonburg	white oak	70	57	Baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern white pine*, green ash, northern red oak*, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree*, white ash, white oak*.
	tuliptree	85	86	
	sweetgum	80	86	
	northern red oak	75	57	
AddB2:				
Avonburg	white oak	70	57	Baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern white pine*, green ash, northern red oak*, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree*, white ash, white oak*.
	tuliptree	85	86	
	sweetgum	80	86	
	northern red oak	75	57	
AfsB:				
Alvin	northern red oak	80	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	90	86	
	white oak	80	57	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
AfsB:				
Princeton	white oak	90	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	98	100	
AfsC2:				
Alvin	northern red oak	80	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	90	86	
	white oak	80	57	
Princeton	white oak	90	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	98	100	
AmkA:				
Ayrshire	white oak	85	72	Baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern white pine*, green ash, northern red oak*, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree*, white ash, white oak*.
	sweetgum	100	143	
	tuliptree	100	114	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
BbhA:				
Bartle	white oak	75	57	Baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern white pine*, green ash, northern red oak*, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree*, white ash, white oak*.
	sweetgum	80	86	
	tuliptree	85	86	
BbiB:				
Bartle	white oak	75	57	Baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern white pine*, green ash, northern red oak*, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree*, white ash, white oak*.
	sweetgum	80	86	
	tuliptree	85	86	
Pekin	white oak	70	57	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
	sugar maple	75	43	
	tuliptree	85	86	
BcrAW:				
Beanblossom	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
BdhAH:				
Bellcreek	pin oak	85	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
BfbAH:				
Bellcreek	pin oak	85	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
BgeAW:				
Birds	pin oak	90	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
BlgC2:				
Blocher	northern red oak	76	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	90	86	
Cincinnati	northern red oak	80	57	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
BlgC3:				
Blocher	northern red oak	76	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	90	86	
Cincinnati	northern red oak	80	57	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, tuliptree, white oak.
BlhD2:				
Blocher	northern red oak	76	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	90	86	
Bonnell	northern red oak	80	57	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
	tuliptree	90	86	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
BluC:				
Bloomfield	black oak	70	57	Black oak, bur oak, chinkapin oak, eastern cottonwood, eastern redcedar, eastern white pine, green ash, scarlet oak, shagbark hickory, Virginia pine.
Alvin	northern red oak	80	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	90	86	
	white oak	80	57	
BnuD3:				
Bonnell	northern red oak	70	57	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, tuliptree, white oak.
Hickory	white oak	85	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	northern red oak	85	72	
	tuliptree	95	100	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
BnuD3:				
Blocher	northern red oak	76	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	90	86	
BobE5:				
Bonnell, gullied	northern red oak	65	43	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, tuliptree, white oak.
Hickory, gullied	white oak	85	72	Black cherry, black walnut, eastern white pine, green ash, northern red oak, tuliptree, white ash, white oak.
BodAV:				
Bonnie	pin oak	90	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
CldB2:				
Cincinnati	northern red oak	80	57	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
CldB2:				
Blocher	northern red oak	76	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	90	86	
ClfA:				
Cobbsfork	pin oak	100	86	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
CmbAW:				
Cohoctah	green ash	70	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
	red maple	72	43	
	silver maple	95	43	
CmzA:				
Cliftycreek	northern red oak	80	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	95	100	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
CmzB2:				
Cliftycreek	northern red oak	80	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	95	100	
CmzC2:				
Cliftycreek	northern red oak	80	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	95	100	
ColD2:				
Coolville	northern red oak	66	43	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
Rarden	black oak	71	57	Black oak, bur oak, chinkapin oak, eastern cottonwood, eastern redcedar, eastern white pine, green ash, scarlet oak, shagbark hickory, Virginia pine.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
ColD2:				
Stonehead	northern red oak	90	72	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
ConC3:				
Coolville	northern red oak	66	43	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, tuliptree, white oak.
Rarden	black oak	71	57	Black oak, bur oak, chinkapin oak, eastern cottonwood, eastern redcedar, eastern white pine, green ash, scarlet oak, shagbark hickory, Virginia pine.
CudA:				
Crosby	northern red oak	75	57	Bitternut hickory, blackgum, bur oak, eastern white pine, green ash, northern red oak, Shumard's oak, swamp white oak, tuliptree, white ash, white oak.
	white oak	75	57	
	tuliptree	85	86	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
CulB:				
Crosby	northern red oak	75	57	Baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree, white ash, white oak.
	white oak	75	57	
	tuliptree	85	86	
Williamstown	northern red oak	90	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	110	129	
CxdA:				
Cyclone	sweetgum	90	100	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
	pin oak	90	72	
DbqE:				
Deam, very deep	---	---	---	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
EcyAH:				
Eel	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
EcyAW:				
Eel	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
EdeAW:				
Eel	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
EepAQ:				
Elkinsville	white oak	90	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
FdbA:				
Fincastle	tuliptree	85	86	Bitternut hickory, blackgum, bur oak, eastern white pine, green ash, northern red oak, Shumard's oak, swamp white oak, tuliptree, white ash, white oak.
	white oak	75	57	
	northern red oak	75	57	
FdqB:				
Fincastle	tuliptree	85	86	Baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern white pine*, green ash, northern red oak*, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree*, white ash, white oak*.
	white oak	75	57	
	northern red oak	75	57	
	sweetgum	80	86	
Xenia	tuliptree	98	100	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	white oak	90	72	
FexA:				
Fox	northern red oak	80	57	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
FexAQ:				
Fox	northern red oak	80	57	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
FexB2:				
Fox	northern red oak	80	57	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
FgqC3:				
Fox	---	---	---	Black oak, bur oak, chinkapin oak, eastern cottonwood, eastern redcedar, eastern white pine, green ash, scarlet oak, shagbark hickory, Virginia pine.
Casco	---	---	---	Bitternut hickory, bur oak, chinkapin oak, green ash, hackberry, northern catalpa, northern white-cedar, Shumard's oak.
GccAH:				
Genesee	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
GccAW:				
Genesee	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
GcpAW:				
Genesee	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
GgbG:				
Gilwood	---	---	---	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
Brownstown	black oak	50	29	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
GgfD2:				
Gilwood	---	---	---	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
GgfD2:				
Wrays	tuliptree	90	86	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	white oak	70	57	
HcgAW:				
Haymond	black walnut	70	0	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
HctAW:				
Haymond	black walnut	70	0	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
Wirt	tuliptree	105	114	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
HeoF:				
Hickory	northern red oak	85	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	95	100	
	white oak	85	72	
HleAW:				
Holton	pin oak	85	72	Baldcypress, bitternut hickory, blackgum, bur oak, green ash, overcup oak, pecan, pin oak, shellbark hickory, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
KugG:				
Kurtz	northern red oak	60	43	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
Gnawbone	---	---	---	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
LeaA:				
Lauer	tuliptree	99	100	Baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern white pine*, green ash, northern red oak*, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree*, white ash, white oak*.
	northern red oak	88	72	
MecAQ:				
Martinsville	white oak	80	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	98	100	
MecB:				
Martinsville	white oak	80	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	98	100	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
MfwA:				
Martinsville, sandy substratum	tuliptree	98	100	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	white oak	80	57	
MfwAQ:				
Martinsville, sandy substratum	tuliptree	98	100	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	white oak	80	57	
MfwB2:				
Martinsville, sandy substratum	tuliptree	98	100	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	white oak	80	57	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
MfxA:				
Martinsville, sandy substratum	northern red oak	80	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	90	86	
	white oak	80	57	
MhuA:				
McGary	sweetgum	80	86	Baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern white pine*, green ash, northern red oak*, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree*, white ash, white oak*.
	white oak	70	57	
	tuliptree	85	86	
MhyB:				
Medora	white oak	90	72	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
	tuliptree	98	100	
MhyC2:				
Medora	white oak	90	72	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
	tuliptree	98	100	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
MjjAH:				
Medway	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
MmoC3:				
Miami	tuliptree	98	100	Black oak, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, tuliptree, white ash, white oak.
	white oak	90	72	
MmoD3:				
Miami	tuliptree	98	100	Black oak, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, tuliptree, white ash, white oak.
	white oak	90	72	
MnpB2:				
Miami	white oak	90	72	Black cherry, black walnut, bur oak, eastern white pine, green ash, northern red oak, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white ash, white oak.
	tuliptree	98	100	
MnpC2:				
Miami	white oak	90	72	Black cherry, black walnut, bur oak, eastern white pine, green ash, northern red oak, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white ash, white oak.
	tuliptree	98	100	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
MnpD2:				
Miami	tuliptree	98	100	Black cherry, black walnut, bur oak, eastern white pine, green ash, northern red oak, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white ash, white oak.
	white oak	90	72	
MqbA:				
Milton	tuliptree	95	100	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
MqbB2:				
Milton	tuliptree	95	100	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
MqbC2:				
Milton	tuliptree	95	100	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
MrbF:				
Milton	tuliptree	85	86	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
	white oak	70	57	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
MrbF:				
Rock outcrop.				
NaaB2:				
Nabb	northern red oak	80	57	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
	white oak	80	57	
NpcA:				
Nineveh	tuliptree	98	100	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
	white oak	90	72	
NpcAQ:				
Nineveh	tuliptree	98	100	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
	white oak	90	72	
NpeA:				
Nineveh	tuliptree	98	100	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
	white oak	90	72	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
NpeAQ:				
Nineveh	tuliptree	98	100	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
	white oak	90	72	
NpeB2:				
Nineveh	tuliptree	98	100	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
	white oak	90	72	
ObaA:				
Ockley	white oak	90	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	northern red oak	90	72	
	tuliptree	98	100	
OfaAW:				
Oldenburg	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
Omz:				
Orthents, earthen dam.				

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
PcrB2:				
Pekin	sugar maple	75	43	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
	tuliptree	85	86	
	white oak	70	57	
PcrC2:				
Pekin	white oak	70	57	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
	sugar maple	75	43	
	tuliptree	85	86	
PcrC3:				
Pekin	white oak	65	43	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, tuliptree, white oak.
	tuliptree	80	72	
PhaA:				
Peoga	pin oak	100	86	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
	sweetgum	90	100	
PlpAV:				
Piopolis	pin oak	90	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
Pml:				
Pits, quarry.				

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
PnnD:				
Pike	tuliptree	98	100	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	white oak	90	72	
Chetwynd	northern red oak	88	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	99	100	
PnnF:				
Pike	tuliptree	98	100	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	white oak	90	72	
Chetwynd	tuliptree	99	100	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	northern red oak	88	72	
Ppu:				
Pits, sand and gravel.				

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
RctD3:				
Rarden	black oak	71	57	Black oak, bur oak, chinkapin oak, eastern cottonwood, eastern redcedar, eastern white pine, green ash, scarlet oak, shagbark hickory, Virginia pine.
Coolville	northern red oak	66	43	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, tuliptree, white oak.
RehA:				
Rensselaer	pin oak	85	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
	sweetgum	90	100	
Treaty	pin oak	90	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
	sweetgum	90	100	
ReyA:				
Rensselaer	sweetgum	90	100	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
	pin oak	86	72	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
ReyAQ:				
Rensselaer	pin oak	86	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
	sweetgum	90	100	
RqaG:				
Rodman	red pine	75	114	Bitternut hickory, black walnut, Blue Ash, bur oak, chinkapin oak, green ash, hackberry, northern catalpa, northern white-cedar, Shumard's oak.
	eastern white pine	85	172	
RtxAH:				
Rossburg	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
RtxAK:				
Rossburg	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
RywB2:				
Russell	northern red oak	90	72	Black cherry, black walnut, bur oak, eastern white pine, green ash, northern red oak, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white ash, white oak.
	white oak	90	72	
	tuliptree	98	100	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
SfyA:				
Shircliff	tuliptree	105	114	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
SifE:				
Senachwine	northern red oak	85	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
SifG:				
Senachwine	northern red oak	85	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
SldAH:				
Shoals	pin oak	90	72	Baldcypress, bitternut hickory, blackgum, bur oak, green ash, overcup oak, pecan, pin oak, shellbark hickory, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
	sweetgum	86	100	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
SldAW:				
Shoals	pin oak	90	72	Bitternut hickory, blackgum, bur oak, green ash, pin oak, shellbark hickory, Shumard's oak, swamp white oak.
SnfA:				
Sleeth	white oak	70	57	Baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree, white ash, white oak.
	sweetgum	80	86	
	tuliptree	85	86	
SoaB:				
Spickert	white oak	60	43	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
	tuliptree	100	114	
	black oak	90	72	
SocAH:				
Sloan	pin oak	86	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
SocAW:				
Sloan	pin oak	86	72	Blackgum, bur oak, green ash, pin oak, red maple, shellbark hickory, silver maple, swamp white oak.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
SoeC2:				
Spickert	white oak	60	43	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
	tuliptree	100	114	
	black oak	90	72	
Wrays	tuliptree	90	86	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	white oak	70	57	
SolC2:				
Spickert	white oak	60	43	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
	tuliptree	100	114	
	black oak	90	72	
Wrays	tuliptree	90	86	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	white oak	70	57	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
SolC3:				
Spickert	white oak	60	43	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, tuliptree, white oak.
	tuliptree	100	114	
	black oak	90	72	
Wrays	tuliptree	90	86	Black oak, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, tuliptree, white ash, white oak.
	white oak	70	57	
	black oak	85	72	
StaAV:				
Steff	sweetgum	100	143	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
StdAQ:				
Stendal	sweetgum	85	86	Baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree, white ash, white oak.
	tuliptree	90	86	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
StdAV:				
Stendal	pin oak	90	72	Baldcypress, bitternut hickory, blackgum, bur oak, green ash, overcup oak, pecan, pin oak, shellbark hickory, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
	sweetgum	85	86	
StmB:				
Stonehead	northern red oak	90	72	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
SucC2:				
Stonehead	northern red oak	90	72	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
Coolville	northern red oak	66	43	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, tuliptree, white oak.
SujD5:				
Stonehead, gullied	---	---	---	Black walnut, eastern white pine, red pine, Virginia pine, yellow-poplar.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
SulC2:				
Stonehead	northern red oak	90	72	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
Wellrock	tuliptree	90	86	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	white oak	70	57	
SuoAH:				
Stonelick	---	---	---	American sycamore, bitternut hickory, black walnut, bur oak, green ash, hackberry, northern catalpa, northern white-cedar, Shumard's oak.
Uaz:				
Udorthents, sandy.				
Uby:				
Udorthents, loamy.				
UemB:				
Urban land.				
Alvin	northern red oak	80	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	90	86	
	white oak	80	57	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
UemB:				
Princeton	white oak	90	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	98	100	
UemC:				
Urban land.				
Alvin	northern red oak	80	57	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	90	86	
	white oak	80	57	
Princeton	white oak	90	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	98	100	
	sweetgum	76	72	
UenA:				
Urban land.				
Fox	northern red oak	80	57	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
UenB:				
Urban land.				
Fox	---	---	---	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
UepC:				
Urban land.				
Fox	---	---	---	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
Casco	---	---	---	Bitternut hickory, black walnut, Blue Ash, bur oak, chinkapin oak, green ash, hackberry, northern catalpa, northern white-cedar, Shumard's oak.
UfcB:				
Urban land.				
Cincinnati	northern red oak	80	57	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
UfcB:				
Nabb	northern red oak	80	57	Black oak,
	white oak	80	57	blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, shagbark hickory, shingle oak, sugar maple, tuliptree, white ash, white oak.
UfdA:				
Urban land.				
Cobbsfork	pin oak	100	86	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
Avonburg	white oak	70	57	Baldcypress,
	tuliptree	85	86	bitternut hickory,
	sweetgum	80	86	blackgum, bur oak,
	northern red oak	75	57	cherrybark oak, eastern white pine*, green ash, northern red oak*, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree*, white ash, white oak*.
UfnA:				
Urban land.				
Crosby	northern red oak	75	57	Bitternut hickory,
	white oak	75	57	blackgum, bur oak,
	tuliptree	85	86	eastern white pine*, green ash, northern red oak*, Shumard's oak, swamp white oak, tuliptree*, white ash, white oak*.
UfoA:				
Urban land.				

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
UfoA:				
Cyclone	pin oak	90	72	Blackgum, bur oak, green ash, pin oak, red maple, shellbark hickory, silver maple, swamp white oak.
UfxA:				
Urban land.				
Fincastle	tuliptree	85	86	Bitternut hickory, blackgum, bur oak, eastern white pine*, green ash, northern red oak*, Shumard's oak, swamp white oak, tuliptree*, white ash, white oak*.
	white oak	75	57	
	northern red oak	75	57	
UfyB:				
Urban land.				
Fincastle	tuliptree	85	86	Baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree, white ash, white oak.
	white oak	75	57	
	northern red oak	75	57	
	sweetgum	80	86	
Russell	northern red oak	90	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	white oak	90	72	
	tuliptree	98	100	
UhyA:				
Urban land.				

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
UhyA:				
Martinsville, sandy substratum	tuliptree	98	100	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	white oak	80	57	
UkbC:				
Urban land.				
Miami	white oak	90	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	98	100	
UkpA:				
Urban land.				
Ockley	white oak	90	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	northern red oak	90	72	
	tuliptree	98	100	
UkqA:				
Urban land.				

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
UkqA:				
Nineveh	tuliptree	98	100	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
	white oak	90	72	
UkqB:				
Urban land.				
Nineveh	tuliptree	98	100	Black oak, blackgum, bur oak, chinkapin oak, eastern white pine, green ash, northern red oak, scarlet oak, shagbark hickory, shingle oak, tuliptree, white oak.
	white oak	90	72	
UmqA:				
Urban land.				
Sleeth	white oak	70	57	Baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree, white ash, white oak.
	sweetgum	80	86	
	tuliptree	85	86	
UnnA:				
Urban land.				
Westland	pin oak	85	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
	sweetgum	90	100	
Usl:				
Udorthents, rubbish.				

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
W:				
Water.				
WaaAV:				
Wakeland	pin oak	90	72	Baldcypress, bitternut hickory, blackgum, bur oak, green ash, overcup oak, pecan, pin oak, shellbark hickory, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
	sweetgum	88	100	
WaaAW:				
Wakeland	pin oak	90	72	Baldcypress, bitternut hickory, blackgum, bur oak, green ash, overcup oak, pecan, pin oak, shellbark hickory, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
	sweetgum	88	100	
WacAW:				
Wakeland	pin oak	90	72	Baldcypress, bitternut hickory, blackgum, bur oak, green ash, overcup oak, pecan, pin oak, shellbark hickory, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
	sweetgum	88	100	
Birds	pin oak	90	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
WbiAW:				
Wilbur	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
Wakeland	pin oak	90	72	Baldcypress, bitternut hickory, blackgum, bur oak, green ash, overcup oak, pecan, pin oak, shellbark hickory, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
	sweetgum	88	100	
WdlC2:				
Wawaka	tuliptree	93	100	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	white oak	74	57	
WdrB2:				
Wawaka	tuliptree	93	100	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	white oak	74	57	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
WokAW:				
Wilbur	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
WolAV:				
Wilhite	pin oak	86	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
	sweetgum	90	100	
WprAV:				
Wirt	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
WprAW:				
Wirt	---	---	---	Baldcypress, black walnut, blackgum, bur oak, cherrybark oak, green ash, pecan, shellbark hickory, shingle oak, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum.
WqlA:				
Westland	pin oak	85	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
	sweetgum	90	100	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
WqlAQ:				
Westland	pin oak	85	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
	sweetgum	90	100	
WsuA:				
Whitaker	tuliptree	85	86	Bitternut hickory, blackgum, bur oak, eastern white pine, green ash, northern red oak, Shumard's oak, swamp white oak, tuliptree, white ash, white oak.
	white oak	70	57	
	northern red oak	75	57	
WsyAQ:				
Whitaker	white oak	65	43	Baldcypress, bitternut hickory, blackgum, bur oak, cherrybark oak, eastern white pine*, green ash, northern red oak*, pecan, Shumard's oak, swamp chestnut oak, swamp white oak, sweetgum, tuliptree*, white ash, white oak*.
WufB2:				
Williamstown	northern red oak	90	72	Black cherry, black walnut, bur oak, eastern white pine, green ash, northern red oak, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white ash, white oak.
	tuliptree	110	129	
XabB2:				
Xenia	tuliptree	98	100	Black cherry, black walnut, bur oak, eastern white pine, green ash, northern red oak, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white ash, white oak.
	white oak	90	72	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber (cu ft/ac)	Trees to plant
XfuB2:				
Miami	white oak	90	72	Black cherry, black walnut, bur oak, eastern white pine, green ash, northern red oak, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white ash, white oak.
	tuliptree	98	100	
Rainsville	white oak	88	72	Black cherry, black walnut, bur oak, eastern white pine, green ash, northern red oak, shagbark hickory, Shumard's oak, sugar maple, tuliptree, white ash, white oak.
	northern red oak	90	72	
	tuliptree	98	100	
XrbC2:				
Miami	white oak	90	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	98	100	
Rainsville	white oak	90	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	northern red oak	90	72	
	tuliptree	98	100	

See footnote at end of table.

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Local plant names	Site index	Volume of wood fiber	Trees to plant
			cu ft/ac	
XrkD2:				
Miami	white oak	90	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	tuliptree	98	100	
Kendallville	white oak	90	72	Black cherry, black walnut, bur oak, cherrybark oak, eastern white pine, green ash, northern red oak, pecan, shagbark hickory, Shumard's oak, sugar maple, swamp chestnut oak, tuliptree, white ash, white oak.
	northern red oak	90	72	
	tuliptree	98	100	
ZboA:				
Zipp	pin oak	86	72	Baldcypress, blackgum, bur oak, green ash, overcup oak, pin oak, red maple, shellbark hickory, silver maple, swamp white oak, sweetgum.
	sweetgum	90	100	

* The following species, eastern white pine, northern red oak, tuliptree, and white oak are not recommended in low lying areas of these soils.

Table 10a.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AddA:						
Avonburg	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
AddB2:						
Avonburg	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
AfsB:						
Alvin	Slight		Well suited		Moderate:	
					Low strength	0.50
Princeton	Slight		Well suited		Moderate:	
					Low strength	0.50
AfsC2:						
Alvin	Slight:		Moderately suited:		Moderate:	
	Landslides	0.10	Slope	0.50	Low strength	0.50
			Landslides	0.10		
Princeton	Slight:		Moderately suited:		Moderate:	
	Landslides	0.10	Slope	0.50	Low strength	0.50
			Landslides	0.10		
AmkA:						
Ayrshire	Slight		Moderately suited:		Moderate:	
			Wetness	0.50	Low strength	0.50
BbhA:						
Bartle	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
BbiB:						
Bartle	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
Pekin	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
BcrAW:						
Beanblossom	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
BdhAH:						
Bellcreek	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Wetness	1.00	Flooding	1.00		
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BfbAH:						
Bellcreek	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Wetness	1.00	Flooding	1.00		
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
BgeAW:						
Birds	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Wetness	1.00	Flooding	1.00		
	Low strength	0.50	Low strength	0.50		
BlgC2:						
Blocher	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
Cincinnati	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
BlgC3:						
Blocher	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
Cincinnati	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Wetness	0.50		
			Landslides	0.10		
BlhD2:						
Blocher	Moderate:		Poorly suited:		Severe:	
	Landslides	0.50	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Landslides	0.50		
Bonnell	Moderate:		Poorly suited:		Severe:	
	Landslides	0.50	Slope	1.00	Low strength	1.00
	Slope	0.50	Low strength	0.50		
	Low strength	0.50	Landslides	0.50		
BluC:						
Bloomfield	Slight:		Moderately suited:		Moderate:	
	Landslides	0.10	Slope	0.50	Low strength	0.50
			Landslides	0.10		
Alvin	Slight:		Moderately suited:		Moderate:	
	Landslides	0.10	Slope	0.50	Low strength	0.50
			Landslides	0.10		
BnuD3:						
Bonnell	Moderate:		Poorly suited:		Severe:	
	Landslides	0.50	Slope	1.00	Low strength	1.00
	Slope	0.50	Low strength	0.50		
	Low strength	0.50	Landslides	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BnuD3:						
Hickory	Moderate:		Poorly suited:		Severe:	
	Slope	0.50	Slope	1.00	Low strength	1.00
	Landslides	0.50	Low strength	0.50		
	Low strength	0.50	Landslides	0.50		
Blocher	Moderate:		Poorly suited:		Severe:	
	Landslides	0.50	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Landslides	0.50		
BobE5:						
Bonnell, gullied	Moderate:		Poorly suited:		Severe:	
	Slope	0.50	Slope	1.00	Low strength	1.00
	Landslides	0.50	Low strength	0.50		
	Low strength	0.50	Landslides	0.50		
Hickory, gullied	Moderate:		Poorly suited:		Severe:	
	Slope	0.50	Slope	1.00	Low strength	1.00
	Landslides	0.50	Low strength	0.50		
	Low strength	0.50	Landslides	0.50		
BodAV:						
Bonnie	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Wetness	1.00	Flooding	1.00		
	Low strength	0.50	Low strength	0.50		
CldB2:						
Cincinnati	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
Blocher	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
ClfA:						
Cobbsfork	Moderate:		Poorly suited:		Severe:	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	0.50		
			Low strength	0.50		
CmbAW:						
Cohoctah	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Wetness	1.00	Flooding	1.00		
	Low strength	0.50	Wetness	0.50		
			Low strength	0.50		
CmzA:						
Cliftycreek	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
CmzB2:						
Cliftycreek	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
CmzC2:						
Cliftycreek	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ColD2:						
Coolville	Severe:		Poorly suited:		Severe:	
	Landslides	1.00	Landslides	1.00	Low strength	1.00
	Slope	0.50	Slope	1.00		
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
Rarden	Severe:		Poorly suited:		Severe:	
	Landslides	1.00	Landslides	1.00	Low strength	1.00
	Slope	0.50	Slope	1.00		
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
Stonehead	Severe:		Poorly suited:		Severe:	
	Landslides	1.00	Landslides	1.00	Low strength	1.00
	Low strength	0.50	Slope	1.00		
			Low strength	0.50		
ConC3:						
Coolville	Moderate:		Moderately suited:		Severe:	
	Landslides	0.50	Slope	0.50	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Landslides	0.50		
			Wetness	0.50		
Rarden	Moderate:		Moderately suited:		Severe:	
	Landslides	0.50	Slope	0.50	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Landslides	0.50		
			Wetness	0.50		
CudA:						
Crosby	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
CulB:						
Crosby	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
Williamstown	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
CxdA:						
Cyclone	Moderate:		Poorly suited:		Severe:	
	Wetness	0.75	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
DbqE:						
Deam, very deep	Severe:		Poorly suited:		Severe:	
	Landslides	1.00	Slope	1.00	Low strength	1.00
	Slope	0.50	Landslides	1.00		
	Low strength	0.50	Low strength	0.50		
EcyAH:						
Eel	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
EcyAW:						
Eel	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
EdeAW:						
Eel	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
EepAQ:						
Elkinsville	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
FdbA:						
Fincastle	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
FdqB:						
Fincastle	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
Xenia	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
FexA:						
Fox	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
FexAQ:						
Fox	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
FexB2:						
Fox	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
FgqC3:						
Fox	Moderate:		Moderately suited:		Moderate:	
	Low strength	0.50	Slope	0.50	Low strength	0.50
	Landslides	0.10	Landslides	0.10		
Casco	Moderate:		Moderately suited:		Moderate:	
	Landslides	0.50	Slope	0.50	Low strength	0.50
	Low strength	0.50	Landslides	0.50		
GccAH:						
Genesee	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
GccAW:						
Genesee	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GcpAW:						
Genesee	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
GgbG:						
Gilwood	Severe:		Poorly suited:		Severe:	
	Slope	1.00	Slope	1.00	Low strength	1.00
	Landslides	0.50	Low strength	0.50		
	Low strength	0.50	Landslides	0.50		
Brownstown	Severe:		Poorly suited:		Severe:	
	Slope	1.00	Slope	1.00	Low strength	1.00
	Landslides	0.50	Low strength	0.50		
			Landslides	0.50		
GgfD2:						
Gilwood	Moderate:		Poorly suited:		Severe:	
	Restrictive layer	0.50	Slope	1.00	Low strength	1.00
	Landslides	0.50	Low strength	0.50		
	Slope	0.50	Landslides	0.50		
	Low strength	0.50				
Wrays	Moderate:		Poorly suited:		Severe:	
	Landslides	0.50	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Landslides	0.50		
HcgAW:						
Haymond	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
HctAW:						
Haymond	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
Wirt	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
HeoF:						
Hickory	Severe:		Poorly suited:		Severe:	
	Slope	1.00	Slope	1.00	Low strength	1.00
	Landslides	0.50	Low strength	0.50		
	Low strength	0.50	Landslides	0.50		
HleAW:						
Holton	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Wetness	1.00	Low strength	0.50		
	Low strength	0.50				
KugG:						
Kurtz	Severe:		Poorly suited:		Severe:	
	Landslides	1.00	Slope	1.00	Low strength	1.00
	Slope	1.00	Landslides	1.00		
	Low strength	0.50	Low strength	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KugG:						
Gnawbone	Severe:		Poorly suited:		Severe:	
	Landslides	1.00	Slope	1.00	Low strength	1.00
	Slope	1.00	Landslides	1.00		
	Low strength	0.50	Low strength	0.50		
LeaA:						
Lauer	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
MecAQ:						
Martinsville	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
MecB:						
Martinsville	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
MfwA:						
Martinsville, sandy substratum	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
MfwAQ:						
Martinsville, sandy substratum	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
MfwB2:						
Martinsville, sandy substratum	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
MfxA:						
Martinsville, sandy substratum	Slight		Well suited		Moderate:	
					Low strength	0.50
MhuA:						
McGary	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
MhyB:						
Medora	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
MhyC2:						
Medora	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
MjjAH:						
Medway	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MmoC3:						
Miami	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
MmoD3:						
Miami	Moderate:		Poorly suited:		Severe:	
	Landslides	0.50	Slope	1.00	Low strength	1.00
	Slope	0.50	Low strength	0.50		
	Low strength	0.50	Landslides	0.50		
MnpB2:						
Miami	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
MnpC2:						
Miami	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
MnpD2:						
Miami	Moderate:		Poorly suited:		Severe:	
	Landslides	0.50	Slope	1.00	Low strength	1.00
	Slope	0.50	Low strength	0.50		
	Low strength	0.50	Landslides	0.50		
MqbA:						
Milton	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
	Restrictive layer	0.50				
MqbB2:						
Milton	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
	Restrictive layer	0.50				
MqbC2:						
Milton	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Restrictive layer	0.50	Low strength	0.50		
	Landslides	0.10	Landslides	0.10		
MrbF:						
Milton	Severe:		Poorly suited:		Severe:	
	Slope	1.00	Slope	1.00	Low strength	1.00
	Landslides	0.50	Low strength	0.50		
	Low strength	0.50	Landslides	0.50		
Rock outcrop	Not rated		Not rated		Not rated	
NaaB2:						
Nabb	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
NpcA:						
Nineveh	Slight		Well suited		Moderate:	
					Low strength	0.50

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NpcAQ:						
Nineveh	Slight		Well suited		Moderate:	
					Low strength	0.50
NpeA:						
Nineveh	Slight		Well suited		Moderate:	
					Low strength	0.50
NpeAQ:						
Nineveh	Slight		Well suited		Moderate:	
					Low strength	0.50
NpeB2:						
Nineveh	Slight		Well suited		Moderate:	
					Low strength	0.50
ObaA:						
Ockley	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
OfaAW:						
Oldenburg	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
Omz:						
Orthents, earthen dam	Not rated		Not rated		Not rated	
PcrB2:						
Pekin	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
PcrC2:						
Pekin	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
PcrC3:						
Pekin	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
PhaA:						
Peoga	Moderate:		Poorly suited:		Severe:	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	0.50		
			Low strength	0.50		
PlpAV:						
Piopolis	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Wetness	1.00	Flooding	1.00		
	Low strength	0.50	Low strength	0.50		
Pml:						
Pits, quarry	Not rated		Not rated		Not rated	

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PnnD:						
Pike	Moderate:		Poorly suited:		Severe:	
	Landslides	0.50	Slope	1.00	Low strength	1.00
	Slope	0.50	Low strength	0.50		
	Low strength	0.50	Landslides	0.50		
Chetwynd	Moderate:		Poorly suited:		Severe:	
	Landslides	0.50	Slope	1.00	Low strength	1.00
	Slope	0.50	Low strength	0.50		
			Landslides	0.50		
PnnF:						
Pike	Severe:		Poorly suited:		Severe:	
	Slope	1.00	Slope	1.00	Low strength	1.00
	Landslides	0.50	Low strength	0.50		
	Low strength	0.50	Landslides	0.50		
Chetwynd	Severe:		Poorly suited:		Severe:	
	Slope	1.00	Slope	1.00	Low strength	1.00
	Landslides	0.50	Low strength	0.50		
			Landslides	0.50		
Ppu:						
Pits, sand and gravel	Not rated		Not rated		Not rated	
RctD3:						
Rarden	Severe:		Poorly suited:		Severe:	
	Landslides	1.00	Landslides	1.00	Low strength	1.00
	Slope	0.50	Slope	1.00		
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
Coolville	Severe:		Poorly suited:		Severe:	
	Landslides	1.00	Landslides	1.00	Low strength	1.00
	Slope	0.50	Slope	1.00		
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
RehA:						
Rensselaer	Moderate:		Poorly suited:		Severe:	
	Wetness	0.75	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
Treaty	Moderate:		Poorly suited:		Severe:	
	Wetness	0.75	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
ReyA:						
Rensselaer	Moderate:		Poorly suited:		Severe:	
	Wetness	0.75	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
ReyAQ:						
Rensselaer	Moderate:		Poorly suited:		Severe:	
	Wetness	0.75	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SocAH:						
Sloan	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Wetness	1.00	Flooding	1.00		
	Low strength	0.50	Wetness	1.00		
			Low strength	0.50		
SocAW:						
Sloan	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Wetness	1.00	Flooding	1.00		
	Low strength	0.50	Wetness	1.00		
			Low strength	0.50		
SoeC2:						
Spickert	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Wetness	0.50		
			Landslides	0.10		
Wrays	Moderate:		Poorly suited:		Severe:	
	Low strength	0.50	Slope	1.00	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
SolC2:						
Spickert	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Wetness	0.50		
			Landslides	0.10		
Wrays	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
SolC3:						
Spickert	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Wetness	0.50		
			Landslides	0.10		
Wrays	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
StaAV:						
Steff	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
StdAQ:						
Stendal	Severe:		Moderately suited:		Severe:	
	Wetness	1.00	Low strength	0.50	Low strength	1.00
	Low strength	0.50				

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
StdAV:						
Stendal	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Wetness	1.00	Low strength	0.50		
	Low strength	0.50				
StmB:						
Stonehead	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
SucC2:						
Stonehead	Moderate:		Moderately suited:		Severe:	
	Landslides	0.50	Slope	0.50	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Landslides	0.50		
Coolville	Moderate:		Moderately suited:		Severe:	
	Landslides	0.50	Slope	0.50	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Landslides	0.50		
			Wetness	0.50		
SujD5:						
Stonehead, gullied	Severe:		Poorly suited:		Severe:	
	Landslides	1.00	Landslides	1.00	Low strength	1.00
	Slope	0.50	Slope	1.00		
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
SulC2:						
Stonehead	Moderate:		Moderately suited:		Severe:	
	Landslides	0.50	Slope	0.50	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Landslides	0.50		
Wellrock	Moderate:		Poorly suited:		Severe:	
	Landslides	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
			Landslides	0.50		
SuoAH:						
Stonelick	Severe:		Poorly suited:		Moderate:	
	Flooding	1.00	Flooding	1.00	Low strength	0.50
Uaz:						
Udorthents, sandy	Not rated		Not rated		Not rated	
Uby:						
Udorthents, loamy	Not rated		Not rated		Not rated	
UemB:						
Urban land	Not rated		Not rated		Not rated	
Alvin	Slight		Well suited		Moderate:	
					Low strength	0.50
Princeton	Slight		Well suited		Moderate:	
					Low strength	0.50
UemC:						
Urban land	Not rated		Not rated		Not rated	

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
StdAQ:						
Alvin	Slight:		Moderately suited:		Moderate:	
	Landslides	0.10	Slope	0.50	Low strength	0.50
			Landslides	0.10		
Princeton	Slight:		Moderately suited:		Moderate:	
	Landslides	0.10	Slope	0.50	Low strength	0.50
			Landslides	0.10		
UenA:						
Urban land	Not rated		Not rated		Not rated	
Fox	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
UenB:						
Urban land	Not rated		Not rated		Not rated	
Fox	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
UepC:						
Urban land	Not rated		Not rated		Not rated	
Fox	Moderate:		Moderately suited:		Moderate:	
	Low strength	0.50	Slope	0.50	Low strength	0.50
	Landslides	0.10	Landslides	0.10		
Casco	Moderate:		Moderately suited:		Moderate:	
	Landslides	0.50	Slope	0.50	Low strength	0.50
	Low strength	0.50	Landslides	0.50		
UfcB:						
Urban land	Not rated		Not rated		Not rated	
Cincinnati	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
Nabb	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
UfdA:						
Urban land	Not rated		Not rated		Not rated	
Cobbsfork	Moderate:		Poorly suited:		Severe:	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Wetness	0.50		
			Low strength	0.50		
Avonburg	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
UfnA:						
Urban land	Not rated		Not rated		Not rated	
Crosby	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UfoA:						
Urban land----------	Not rated		Not rated		Not rated	
Cyclone----------	Moderate:		Poorly suited:		Severe:	
	Wetness	0.75	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
UfxA:						
Urban land----------	Not rated		Not rated		Not rated	
Fincastle----------	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
UfyB:						
Urban land----------	Not rated		Not rated		Not rated	
Fincastle----------	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
Russell----------	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
UhyA:						
Urban land----------	Not rated		Not rated		Not rated	
Martinsville, sandy substratum---------	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
UkbC:						
Urban land----------	Not rated		Not rated		Not rated	
Miami----------	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
UkpA:						
Urban land----------	Not rated		Not rated		Not rated	
Ockley----------	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
UkqA:						
Urban land----------	Not rated		Not rated		Not rated	
Nineveh----------	Slight		Well suited		Moderate:	
					Low strength	0.50
UkqB:						
Urban land----------	Not rated		Not rated		Not rated	
Nineveh----------	Slight		Well suited		Moderate:	
					Low strength	0.50
UmqA:						
Urban land----------	Not rated		Not rated		Not rated	

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UmqA:						
Sleeth	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
UnnA:						
Urban land	Not rated		Not rated		Not rated	
Westland	Moderate:		Poorly suited:		Severe:	
	Wetness	0.75	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
Usl:						
Udorthents, rubbish	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	
WaaAV:						
Wakeland	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Wetness	1.00	Low strength	0.50		
	Low strength	0.50				
WaaAW:						
Wakeland	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Wetness	1.00	Low strength	0.50		
	Low strength	0.50				
WacAW:						
Wakeland	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Wetness	1.00	Low strength	0.50		
	Low strength	0.50				
Birds	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Wetness	1.00	Flooding	1.00		
	Low strength	0.50	Low strength	0.50		
WbiAW:						
Wilbur	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
Wakeland	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Wetness	1.00	Low strength	0.50		
	Low strength	0.50				
WdlC2:						
Wawaka	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
WdrB2:						
Wawaka	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WokAW:						
Wilbur	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
WolAV:						
Wilhite	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Wetness	1.00	Flooding	1.00		
	Low strength	0.50	Low strength	0.50		
WprAV:						
Wirt	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
WprAW:						
Wirt	Severe:		Poorly suited:		Severe:	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
WqlA:						
Westland	Moderate:		Poorly suited:		Severe:	
	Wetness	0.75	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
WqlAQ:						
Westland	Moderate:		Poorly suited:		Severe:	
	Wetness	0.75	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Wetness	0.50		
WsuA:						
Whitaker	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Wetness	0.50	Low strength	1.00
			Low strength	0.50		
WsyAQ:						
Whitaker	Slight		Moderately suited:		Moderate:	
			Wetness	0.50	Low strength	0.50
WufB2:						
Williamstown	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
XabB2:						
Xenia	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
XfuB2:						
Miami	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
Rainsville	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
XrbC2:						
Miami	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
Rainsville	Moderate:		Moderately suited:		Severe:	
	Low strength	0.50	Slope	0.50	Low strength	1.00
	Landslides	0.10	Low strength	0.50		
			Landslides	0.10		
XrkD2:						
Miami	Moderate:		Poorly suited:		Severe:	
	Landslides	0.50	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Landslides	0.50		
Kendallville	Moderate:		Poorly suited:		Severe:	
	Landslides	0.50	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Landslides	0.50		
ZboA:						
Zipp	Severe:		Poorly suited:		Severe:	
	Wetness	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		

Table 10b.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AddA:						
Avonburg	Slight		Slight		Moderately suited:	
					Low strength	0.50
AddB2:						
Avonburg	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
AfsB:						
Alvin	Slight		Moderate:		Well suited	
			Slope/erodibility	0.50		
Princeton	Slight		Moderate:		Well suited	
			Slope/erodibility	0.50		
AfsC2:						
Alvin	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Landslides	0.10
Princeton	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Landslides	0.10
AmkA:						
Ayrshire	Slight		Slight		Moderately suited:	
					Wetness	0.50
BbhA:						
Bartle	Slight		Slight		Moderately suited:	
					Low strength	0.50
BbiB:						
Bartle	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
Pekin	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
BcrAW:						
Beanblossom	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
BdhAH:						
Bellcreek	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BfbAH:						
Bellcreek----------	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50
BgeAW:						
Birds----------	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Flooding	1.00
					Low strength	0.50
BlgC2:						
Blocher----------	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
Cincinnati----------	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
BlgC3:						
Blocher----------	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
Cincinnati----------	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Wetness	0.50
					Landslides	0.10
BlhD2:						
Blocher----------	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
Bonnell----------	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
BluC:						
Bloomfield----------	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Slope	0.50
					Landslides	0.10
Alvin----------	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Slope	0.50
					Landslides	0.10
BnuD3:						
Bonnell----------	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BnuD3:						
Hickory	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
Blocher	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
BobE5:						
Bonnell, gullied	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
Hickory, gullied	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
BodAV:						
Bonnie	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Flooding	1.00
					Low strength	0.50
CldB2:						
Cincinnati	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
Blocher	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
ClfA:						
Cobbsfork	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Wetness	0.50
					Low strength	0.50
CmbAW:						
Cohoctah	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Flooding	1.00
					Wetness	0.50
					Low strength	0.50
CmzA:						
Cliftycreek	Slight		Slight		Moderately suited:	
					Low strength	0.50
CmzB2:						
Cliftycreek	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
CmzC2:						
Cliftycreek	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ColD2:						
Coolville	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Landslides	1.00
					Slope	1.00
					Low strength	0.50
					Wetness	0.50
Rarden	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Landslides	1.00
					Slope	1.00
					Low strength	0.50
					Wetness	0.50
Stonehead	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Landslides	1.00
					Slope	1.00
					Low strength	0.50
ConC3:						
Coolville	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.50
					Wetness	0.50
Rarden	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.50
					Wetness	0.50
CudA:						
Crosby	Slight		Slight		Moderately suited:	
					Wetness	0.50
					Low strength	0.50
CulB:						
Crosby	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Wetness	0.50
					Low strength	0.50
Williamstown	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
CxdA:						
Cyclone	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Low strength	0.50
					Wetness	0.50
DbqE:						
Deam, very deep	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Landslides	1.00
					Low strength	0.50
EcyAH:						
Eel	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
EcyAW:						
Eel	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
EdeAW:						
Eel	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
EepAQ:						
Elkinsville	Slight		Slight		Moderately suited:	
					Low strength	0.50
FdbA:						
Fincastle	Slight		Slight		Moderately suited:	
					Wetness	0.50
					Low strength	0.50
FdqB:						
Fincastle	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Wetness	0.50
					Low strength	0.50
Xenia	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
FexA:						
Fox	Slight		Slight		Moderately suited:	
					Low strength	0.50
FexAQ:						
Fox	Slight		Slight		Moderately suited:	
					Low strength	0.50
FexB2:						
Fox	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
FgqC3:						
Fox	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Slope	0.50
					Landslides	0.10
Casco	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Slope	0.50
					Landslides	0.50
GccAH:						
Genesee	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
GccAW:						
Genesee	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GcpAW:						
Genesee	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
GgbG:						
Gilwood	Severe:		Severe:		Poorly suited:	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
Brownstown	Severe:		Severe:		Poorly suited:	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
GgfD2:						
Gilwood	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
Wrays	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
HcgAW:						
Haymond	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
HctAW:						
Haymond	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
Wirt	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
HeoF:						
Hickory	Severe:		Severe:		Poorly suited:	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
HleAW:						
Holton	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
KugG:						
Kurtz	Severe:		Severe:		Poorly suited:	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Landslides	1.00
					Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KugG:						
Gnawbone	Very severe:		Severe:		Poorly suited:	
	Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
					Landslides	1.00
					Low strength	0.50
LeaA:						
Lauer	Slight		Slight		Moderately suited:	
					Low strength	0.50
MecAQ:						
Martinsville	Slight		Slight		Moderately suited:	
					Low strength	0.50
MecB:						
Martinsville	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
MfwA:						
Martinsville, sandy substratum	Slight		Slight		Moderately suited:	
					Low strength	0.50
MfwAQ:						
Martinsville, sandy substratum	Slight		Slight		Moderately suited:	
					Low strength	0.50
MfwB2:						
Martinsville, sandy substratum	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
MfxA:						
Martinsville, sandy substratum	Slight		Slight		Well suited	
MhuA:						
McGary	Slight		Slight		Moderately suited:	
					Low strength	0.50
MhyB:						
Medora	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
MhyC2:						
Medora	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
MjjAH:						
Medway	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
					Wetness	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MmoC3:						
Miami	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
MmoD3:						
Miami	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
MnpB2:						
Miami	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
MnpC2:						
Miami	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
MnpD2:						
Miami	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
MqbA:						
Milton	Slight		Slight		Moderately suited:	
					Low strength	0.50
MqbB2:						
Milton	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
MqbC2:						
Milton	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
MrbF:						
Milton	Severe:		Severe:		Poorly suited:	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
Rock outcrop	Not rated		Not rated		Not rated	
NaaB2:						
Nabb	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
NpcA:						
Nineveh	Slight		Slight		Well suited	
NpcAQ:						
Nineveh	Slight		Slight		Well suited	

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NpeA:						
Nineveh	Slight		Slight		Well suited	
NpeAQ:						
Nineveh	Slight		Slight		Well suited	
NpeB2:						
Nineveh	Slight		Slight		Well suited	
ObaA:						
Ockley	Slight		Slight		Moderately suited:	
					Low strength	0.50
OfaAW:						
Oldenburg	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
Omz:						
Orthents, earthen dam	Not rated		Not rated		Not rated	
PcrB2:						
Pekin	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
PcrC2:						
Pekin	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
PcrC3:						
Pekin	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
PhaA:						
Peoga	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Wetness	0.50
					Low strength	0.50
PlpAV:						
Piopolis	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Flooding	1.00
					Low strength	0.50
Pml:						
Pits, quarry	Not rated		Not rated		Not rated	
PnnD:						
Pike	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PnnD:						
Chetwynd	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
PnnF:						
Pike	Severe:		Severe:		Poorly suited:	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
Chetwynd	Severe:		Severe:		Poorly suited:	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
Ppu:						
Pits, sand and gravel	Not rated		Not rated		Not rated	
RctD3:						
Rarden	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Landslides	1.00
					Slope	1.00
					Low strength	0.50
					Wetness	0.50
Coolville	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Landslides	1.00
					Slope	1.00
					Low strength	0.50
					Wetness	0.50
RehA:						
Rensselaer	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Low strength	0.50
					Wetness	0.50
Treaty	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Low strength	0.50
					Wetness	0.50
ReyA:						
Rensselaer	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Low strength	0.50
					Wetness	0.50
ReyAQ:						
Rensselaer	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Low strength	0.50
					Wetness	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RqaG:						
Rodman	Severe:		Severe:		Poorly suited:	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
					Landslides	0.50
RtxAH:						
Rossburg	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
RtxAK:						
Rossburg	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
RywB2:						
Russell	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
SfyA:						
Shircliff	Slight		Slight		Moderately suited:	
					Low strength	0.50
SifE:						
Senachwine	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
SifG:						
Senachwine	Very severe:		Severe:		Poorly suited:	
	Slope/erodibility	0.95	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
SldAH:						
Shoals	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Wetness	0.50
					Low strength	0.50
SldAW:						
Shoals	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Wetness	0.50
					Low strength	0.50
SnfA:						
Sleeth	Slight		Slight		Moderately suited:	
					Wetness	0.50
					Low strength	0.50
SoaB:						
Spickert	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
					Wetness	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SocAH:						
Sloan	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
SocAW:						
Sloan	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
SoeC2:						
Spickert	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Wetness	0.50
					Landslides	0.10
Wrays	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.10
SolC2:						
Spickert	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Wetness	0.50
					Landslides	0.10
Wrays	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
SolC3:						
Spickert	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Wetness	0.50
					Landslides	0.10
Wrays	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
StaAV:						
Steff	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
StdAQ:						
Stendal	Slight		Slight		Moderately suited:	
					Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
StdAV:						
Stendal	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
StmB:						
Stonehead	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
SucC2:						
Stonehead	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.50
Coolville	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.50
					Wetness	0.50
SujD5:						
Stonehead, gullied	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Landslides	1.00
					Slope	1.00
					Low strength	0.50
					Wetness	0.50
SulC2:						
Stonehead	Moderate:		Severe:		Moderately suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.50
Wellrock	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
SuoAH:						
Stonelick	Slight		Slight		Poorly suited:	
					Flooding	1.00
Uaz:						
Udorthents, sandy	Not rated		Not rated		Not rated	
Uby:						
Udorthents, loamy	Not rated		Not rated		Not rated	
UemB:						
Urban land	Not rated		Not rated		Not rated	
Alvin	Slight		Moderate:		Well suited	
			Slope/erodibility	0.50		
Princeton	Slight		Moderate:		Well suited	
			Slope/erodibility	0.50		
UemC:						
Urban land	Not rated		Not rated		Not rated	

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UemC:						
Alvin	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Landslides	0.10
Princeton	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Landslides	0.10
UenA:						
Urban land	Not rated		Not rated		Not rated	
Fox	Slight		Slight		Moderately suited:	
					Low strength	0.50
UenB:						
Urban land	Not rated		Not rated		Not rated	
Fox	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
UepC:						
Urban land	Not rated		Not rated		Not rated	
Fox	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Slope	0.50
					Landslides	0.10
Casco	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Slope	0.50
					Landslides	0.50
UfcB:						
Urban land	Not rated		Not rated		Not rated	
Cincinnati	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
Nabb	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
UfdA:						
Urban land	Not rated		Not rated		Not rated	
Cobbsfork	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Wetness	0.50
					Low strength	0.50
Avonburg	Slight		Slight		Moderately suited:	
					Low strength	0.50
UfnA:						
Urban land	Not rated		Not rated		Not rated	
Crosby	Slight		Slight		Moderately suited:	
					Wetness	0.50
					Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UfoA:						
Urban land	Not rated		Not rated		Not rated	
Cyclone	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Low strength	0.50
					Wetness	0.50
UfxA:						
Urban land	Not rated		Not rated		Not rated	
Fincastle	Slight		Slight		Moderately suited:	
					Wetness	0.50
					Low strength	0.50
UfyB:						
Urban land	Not rated		Not rated		Not rated	
Fincastle	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Wetness	0.50
					Low strength	0.50
Russell	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
UhyA:						
Urban land	Not rated		Not rated		Not rated	
Martinsville, sandy substratum	Slight		Slight		Moderately suited:	
					Low strength	0.50
UkbC:						
Urban land	Not rated		Not rated		Not rated	
Miami	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
UkpA:						
Urban land	Not rated		Not rated		Not rated	
Ockley	Slight		Slight		Moderately suited:	
					Low strength	0.50
UkqA:						
Urban land	Not rated		Not rated		Not rated	
Nineveh	Slight		Slight		Well suited	
UkqB:						
Urban land	Not rated		Not rated		Not rated	
Nineveh	Slight		Slight		Well suited	
UmqA:						
Urban land	Not rated		Not rated		Not rated	

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UmqA:						
Sleeth	Slight		Slight		Moderately suited:	
					Wetness	0.50
					Low strength	0.50
UnnA:						
Urban land	Not rated		Not rated		Not rated	
Westland	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Low strength	0.50
					Wetness	0.50
Usl:						
Udorthents, rubbish	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	
WaaAV:						
Wakeland	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
WaaAW:						
Wakeland	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
WacAW:						
Wakeland	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
Birds	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Flooding	1.00
					Low strength	0.50
WbiAW:						
Wilbur	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
Wakeland	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
WdlC2:						
Wawaka	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
WdrB2:						
Wawaka	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WokAW:						
Wilbur	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
WolAV:						
Wilhite	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Flooding	1.00
					Low strength	0.50
WprAV:						
Wirt	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
WprAW:						
Wirt	Slight		Slight		Poorly suited:	
					Flooding	1.00
					Low strength	0.50
WqlA:						
Westland	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Low strength	0.50
					Wetness	0.50
WqlAQ:						
Westland	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Low strength	0.50
					Wetness	0.50
WsuA:						
Whitaker	Slight		Slight		Moderately suited:	
					Wetness	0.50
					Low strength	0.50
WsyAQ:						
Whitaker	Slight		Slight		Moderately suited:	
					Wetness	0.50
WufB2:						
Williamstown	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
XabB2:						
Xenia	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
XfuB2:						
Miami	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50
Rainsville	Slight		Moderate:		Moderately suited:	
			Slope/erodibility	0.50	Low strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
XrbC2:						
Miami	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
Rainsville	Slight		Severe:		Moderately suited:	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Landslides	0.10
XrkD2:						
Miami	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
Kendallville	Moderate:		Severe:		Poorly suited:	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
					Landslides	0.50
ZboA:						
Zipp	Slight		Slight		Poorly suited:	
					Ponding	1.00
					Low strength	0.50

Table 10c.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AddA:						
Avonburg	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
AddB2:						
Avonburg	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
AfsB:						
Alvin	Well suited		Well suited		Well suited	
Princeton	Well suited		Well suited		Well suited	
AfsC2:						
Alvin	Well suited		Moderately suited:		Well suited	
			Slope	0.50		
Princeton	Well suited		Moderately suited:		Well suited	
			Slope	0.50		
AmkA:						
Ayrshire	Well suited		Well suited		Well suited	
BbhA:						
Bartle	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
BbiB:						
Bartle	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
Pekin	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
BcrAW:						
Beanblossom	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
BdhAH:						
Bellcreek	Poorly suited:		Poorly suited:		Poorly suited:	
	Wetness	0.75	Wetness	0.75	Wetness	1.00
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
BfbAH:						
Bellcreek	Poorly suited:		Poorly suited:		Poorly suited:	
	Wetness	0.75	Wetness	0.75	Wetness	1.00
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
BgeAW:						
Birds	Well suited		Well suited		Poorly suited:	
					Wetness	1.00
					Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BlgC2:						
Blocher----------	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
Cincinnati----------	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
BlgC3:						
Blocher----------	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
Cincinnati----------	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
BlhD2:						
Blocher----------	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
Bonnell----------	Moderately suited:		Poorly suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.75	Low strength	0.50
			Stickiness	0.50		
BluC:						
Bloomfield----------	Moderately suited:		Moderately suited:		Well suited	
	Sandiness	0.50	Slope	0.50		
			Sandiness	0.50		
Alvin----------	Well suited		Moderately suited:		Well suited	
			Slope	0.50		
BnuD3:						
Bonnell----------	Moderately suited:		Poorly suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.75	Low strength	0.50
			Stickiness	0.50		
Hickory----------	Well suited		Poorly suited:		Moderately suited:	
			Slope	0.75	Low strength	0.50
					Slope	0.50
Blocher----------	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
BobE5:						
Bonnell, gullied----	Moderately suited:		Poorly suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.75	Low strength	0.50
			Stickiness	0.50	Slope	0.50
Hickory, gullied----	Well suited		Poorly suited:		Moderately suited:	
			Slope	0.75	Low strength	0.50
					Slope	0.50
BodAV:						
Bonnie----------	Well suited		Well suited		Poorly suited:	
					Wetness	1.00
					Low strength	0.50
CldB2:						
Cincinnati----------	Well suited		Well suited		Moderately suited:	
					Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CldB2:						
Blocher	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
ClfA:						
Cobbsfork	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
CmbAW:						
Cohoctah	Well suited		Well suited		Poorly suited:	
					Wetness	1.00
					Low strength	0.50
CmzA:						
Cliftycreek	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
CmzB2:						
Cliftycreek	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
CmzC2:						
Cliftycreek	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
ColD2:						
Coolville	Moderately suited:		Poorly suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.75	Low strength	0.50
			Stickiness	0.50		
Rarden	Moderately suited:		Poorly suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.75	Low strength	0.50
			Stickiness	0.50		
Stonehead	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
			Slope	0.50		
ConC3:						
Coolville	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		
Rarden	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
			Slope	0.50		
CudA:						
Crosby	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
CulB:						
Crosby	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
Williamstown	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CxdA:						
Cyclone	Poorly suited:		Poorly suited:		Poorly suited:	
	Wetness	0.75	Wetness	0.75	Wetness	0.75
					Low strength	0.50
DbqE:						
Deam, very deep	Well suited		Poorly suited:		Moderately suited:	
			Slope	0.75	Low strength	0.50
EcyAH:						
Eel	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
EcyAW:						
Eel	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
EdeAW:						
Eel	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
EepAQ:						
Elkinsville	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
FdbA:						
Fincastle	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
FdqB:						
Fincastle	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
Xenia	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
FexA:						
Fox	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
FexAQ:						
Fox	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
FexB2:						
Fox	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
FgqC3:						
Fox	Well suited		Moderately suited:		Well suited	
			Slope	0.50		
Casco	Well suited		Moderately suited:		Well suited	
			Slope	0.50		
			Rock fragments	0.50		
GccAH:						
Genesee	Well suited		Well suited		Moderately suited:	
					Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GccAW:						
Genesee	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
GcpAW:						
Genesee	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
GgbG:						
Gilwood	Moderately suited:		Unsuited:		Poorly suited:	
	Slope	0.50	Slope	1.00	Slope	1.00
			Rock fragments	0.50	Low strength	0.50
Brownstown	Moderately suited:		Unsuited:		Poorly suited:	
	Slope	0.50	Slope	1.00	Slope	1.00
			Rock fragments	0.50	Low strength	0.50
GgfD2:						
Gilwood	Well suited		Poorly suited:		Moderately suited:	
			Slope	0.75	Low strength	0.50
			Rock fragments	0.50		
Wrays	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		
HcgAW:						
Haymond	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
HctAW:						
Haymond	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
Wirt	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
HeoF:						
Hickory	Moderately suited:		Unsuited:		Poorly suited:	
	Slope	0.50	Slope	1.00	Slope	1.00
					Low strength	0.50
HleAW:						
Holton	Well suited		Well suited		Poorly suited:	
					Wetness	1.00
					Low strength	0.50
KugG:						
Kurtz	Moderately suited:		Unsuited:		Moderately suited:	
	Slope	0.50	Slope	1.00	Slope	0.50
					Low strength	0.50
Gnawbone	Moderately suited:		Unsuited:		Poorly suited:	
	Slope	0.50	Slope	1.00	Slope	1.00
			Rock fragments	0.50	Low strength	0.50
LeaA:						
Lauer	Well suited		Well suited		Moderately suited:	
					Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MecAQ:						
Martinsville	Well suited		Well suited		Moderately suited: Low strength	0.50
MecB:						
Martinsville	Well suited		Well suited		Moderately suited: Low strength	0.50
MfwA:						
Martinsville, sandy substratum	Well suited		Well suited		Moderately suited: Low strength	0.50
MfwAQ:						
Martinsville, sandy substratum	Well suited		Well suited		Moderately suited: Low strength	0.50
MfwB2:						
Martinsville, sandy substratum	Well suited		Well suited		Moderately suited: Low strength	0.50
MfxA:						
Martinsville, sandy substratum	Well suited		Well suited		Well suited	
MhuA:						
McGary	Moderately suited: Stickiness	0.50	Moderately suited: Stickiness	0.50	Moderately suited: Low strength	0.50
MhyB:						
Medora	Moderately suited: Stickiness	0.50	Moderately suited: Stickiness	0.50	Moderately suited: Low strength	0.50
MhyC2:						
Medora	Moderately suited: Stickiness	0.50	Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
			Stickiness	0.50		
MjjAH:						
Medway	Well suited		Well suited		Moderately suited: Low strength	0.50
MmoC3:						
Miami	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50
MmoD3:						
Miami	Well suited		Poorly suited: Slope	0.75	Moderately suited: Low strength	0.50
MnpB2:						
Miami	Well suited		Well suited		Moderately suited: Low strength	0.50
MnpC2:						
Miami	Well suited		Moderately suited: Slope	0.50	Moderately suited: Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MnpD2:						
Miami	Well suited		Poorly suited:		Moderately suited:	
			Slope	0.75	Low strength	0.50
MqbA:						
Milton	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
MqbB2:						
Milton	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
MqbC2:						
Milton	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
MrbF:						
Milton	Moderately suited:		Unsuited:		Moderately suited:	
	Slope	0.50	Slope	1.00	Slope	0.50
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
Rock outcrop	Not rated		Not rated		Not rated	
NaaB2:						
Nabb	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
NpcA:						
Nineveh	Well suited		Well suited		Well suited	
NpcAQ:						
Nineveh	Well suited		Well suited		Well suited	
NpeA:						
Nineveh	Well suited		Well suited		Well suited	
NpeAQ:						
Nineveh	Well suited		Well suited		Well suited	
NpeB2:						
Nineveh	Well suited		Well suited		Well suited	
ObaA:						
Ockley	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
OfaAW:						
Oldenburg	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
Omz:						
Orthents, earthen dam	Not rated		Not rated		Not rated	
PcrB2:						
Pekin	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
PcrC2:						
Pekin	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PcrC3:						
Pekin	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
PhaA:						
Peoga	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
PlpAV:						
Piopolis	Well suited		Well suited		Poorly suited:	
					Wetness	1.00
					Low strength	0.50
Pml:						
Pits, quarry	Not rated		Not rated		Not rated	
PnnD:						
Pike	Well suited		Poorly suited:		Moderately suited:	
			Slope	0.75	Low strength	0.50
Chetwynd	Well suited		Poorly suited:		Moderately suited:	
			Slope	0.75	Low strength	0.50
PnnF:						
Pike	Moderately suited:		Unsuited:		Moderately suited:	
	Slope	0.50	Slope	1.00	Slope	0.50
					Low strength	0.50
Chetwynd	Moderately suited:		Unsuited:		Moderately suited:	
	Slope	0.50	Slope	1.00	Slope	0.50
					Low strength	0.50
Ppu:						
Pits, sand and gravel	Not rated		Not rated		Not rated	
RctD3:						
Rarden	Moderately suited:		Poorly suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.75	Low strength	0.50
			Stickiness	0.50		
Coolville	Moderately suited:		Poorly suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.75	Low strength	0.50
			Stickiness	0.50		
RehA:						
Rensselaer	Poorly suited:		Poorly suited:		Poorly suited:	
	Wetness	0.75	Wetness	0.75	Wetness	0.75
					Low strength	0.50
Treaty	Poorly suited:		Poorly suited:		Poorly suited:	
	Wetness	0.75	Wetness	0.75	Wetness	0.75
					Low strength	0.50
ReyA:						
Rensselaer	Poorly suited:		Poorly suited:		Poorly suited:	
	Wetness	0.75	Wetness	0.75	Wetness	0.75
					Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ReyAQ:						
Rensselaer	Poorly suited:		Poorly suited:		Poorly suited:	
	Wetness	0.75	Wetness	0.75	Wetness	0.75
					Low strength	0.50
RqaG:						
Rodman	Moderately suited:		Unsuited:		Poorly suited:	
	Slope	0.50	Slope	1.00	Slope	1.00
			Rock fragments	0.50		
RtxAH:						
Rossburg	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
RtxAK:						
Rossburg	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
RywB2:						
Russell	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
SfyA:						
Shircliff	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
SifE:						
Senachwine	Well suited		Poorly suited:		Moderately suited:	
			Slope	0.75	Low strength	0.50
					Slope	0.50
SifG:						
Senachwine	Moderately suited:		Unsuited:		Poorly suited:	
	Slope	0.50	Slope	1.00	Slope	1.00
					Low strength	0.50
SldAH:						
Shoals	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
SldAW:						
Shoals	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
SnfA:						
Sleeth	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
SoaB:						
Spickert	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
SocAH:						
Sloan	Poorly suited:		Poorly suited:		Poorly suited:	
	Wetness	0.75	Wetness	0.75	Wetness	1.00
					Low strength	0.50
SocAW:						
Sloan	Poorly suited:		Poorly suited:		Poorly suited:	
	Wetness	0.75	Wetness	0.75	Wetness	1.00
					Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SoeC2:						
Spickert	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
Wrays	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		
SolC2:						
Spickert	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
Wrays	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		
SolC3:						
Spickert	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
Wrays	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		
StaAV:						
Steff	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
StdAQ:						
Stendal	Well suited		Well suited		Poorly suited:	
					Wetness	1.00
					Low strength	0.50
StdAV:						
Stendal	Well suited		Well suited		Poorly suited:	
					Wetness	1.00
					Low strength	0.50
StmB:						
Stonehead	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
SucC2:						
Stonehead	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
			Slope	0.50		
Coolville	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		
SujD5:						
Stonehead, gullied	Moderately suited:		Poorly suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.75	Low strength	0.50
			Stickiness	0.50		
SulC2:						
Stonehead	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
			Slope	0.50		

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SulC2:						
Wellrock	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Slope	0.50	Low strength	0.50
			Stickiness	0.50		
SuoAH:						
Stonelick	Well suited		Well suited		Well suited	
Uaz:						
Udorthents, sandy	Not rated		Not rated		Not rated	
Uby:						
Udorthents, loamy	Not rated		Not rated		Not rated	
UemB:						
Urban land	Not rated		Not rated		Not rated	
Alvin	Well suited		Well suited		Well suited	
Princeton	Well suited		Well suited		Well suited	
UemC:						
Urban land	Not rated		Not rated		Not rated	
Alvin	Well suited		Moderately suited:		Well suited	
			Slope	0.50		
Princeton	Well suited		Moderately suited:		Well suited	
			Slope	0.50		
UenA:						
Urban land	Not rated		Not rated		Not rated	
Fox	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
UenB:						
Urban land	Not rated		Not rated		Not rated	
Fox	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
UepC:						
Urban land	Not rated		Not rated		Not rated	
Fox	Well suited		Moderately suited:		Well suited	
			Slope	0.50		
Casco	Well suited		Moderately suited:		Well suited	
			Slope	0.50		
			Rock fragments	0.50		
UfcB:						
Urban land	Not rated		Not rated		Not rated	
Cincinnati	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
Nabb	Well suited		Well suited		Moderately suited:	
					Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UfdA:						
Urban land----------	Not rated		Not rated		Not rated	
Cobbsfork----------	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
Avonburg----------	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
UfnA:						
Urban land----------	Not rated		Not rated		Not rated	
Crosby----------	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
UfoA:						
Urban land----------	Not rated		Not rated		Not rated	
Cyclone----------	Poorly suited:		Poorly suited:		Poorly suited:	
	Wetness	0.75	Wetness	0.75	Wetness	0.75
					Low strength	0.50
UfxA:						
Urban land----------	Not rated		Not rated		Not rated	
Fincastle----------	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
UfyB:						
Urban land----------	Not rated		Not rated		Not rated	
Fincastle----------	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
Russell----------	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
UhyA:						
Urban land----------	Not rated		Not rated		Not rated	
Martinsville, sandy substratum---------	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
UkbC:						
Urban land----------	Not rated		Not rated		Not rated	
Miami----------	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
UkpA:						
Urban land----------	Not rated		Not rated		Not rated	
Ockley----------	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
UkqA:						
Urban land----------	Not rated		Not rated		Not rated	
Nineveh----------	Well suited		Well suited		Well suited	

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UkqB:						
Urban land	Not rated		Not rated		Not rated	
Nineveh	Well suited		Well suited		Well suited	
UmqA:						
Urban land	Not rated		Not rated		Not rated	
Sleeth	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
UnnA:						
Urban land	Not rated		Not rated		Not rated	
Westland	Poorly suited:		Poorly suited:		Poorly suited:	
	Wetness	0.75	Wetness	0.75	Wetness	0.75
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
Usl:						
Udorthents, rubbish	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	
WaaAV:						
Wakeland	Well suited		Well suited		Poorly suited:	
					Wetness	1.00
					Low strength	0.50
WaaAW:						
Wakeland	Well suited		Well suited		Poorly suited:	
					Wetness	1.00
					Low strength	0.50
WacAW:						
Wakeland	Well suited		Well suited		Poorly suited:	
					Wetness	1.00
					Low strength	0.50
Birds	Well suited		Well suited		Poorly suited:	
					Wetness	1.00
					Low strength	0.50
WbiAW:						
Wilbur	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
Wakeland	Well suited		Well suited		Poorly suited:	
					Wetness	1.00
					Low strength	0.50
WdlC2:						
Wawaka	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
WdrB2:						
Wawaka	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WokAW:						
Wilbur	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
WolAV:						
Wilhite	Moderately suited:		Moderately suited:		Poorly suited:	
	Stickiness	0.50	Stickiness	0.50	Wetness	1.00
					Low strength	0.50
WprAV:						
Wirt	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
WprAW:						
Wirt	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
WqlA:						
Westland	Poorly suited:		Poorly suited:		Poorly suited:	
	Wetness	0.75	Wetness	0.75	Wetness	0.75
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
WqlAQ:						
Westland	Poorly suited:		Poorly suited:		Poorly suited:	
	Wetness	0.75	Wetness	0.75	Wetness	0.75
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
WsuA:						
Whitaker	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
WsyAQ:						
Whitaker	Well suited		Well suited		Well suited	
WufB2:						
Williamstown	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
XabB2:						
Xenia	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
XfuB2:						
Miami	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
Rainsville	Well suited		Well suited		Moderately suited:	
					Low strength	0.50
XrbC2:						
Miami	Moderately suited:		Moderately suited:		Moderately suited:	
	Stickiness	0.50	Stickiness	0.50	Low strength	0.50
			Slope	0.50		
Rainsville	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
XrkD2:						
Miami	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
XrkD2:						
Kendallville--------	Well suited		Moderately suited:		Moderately suited:	
			Slope	0.50	Low strength	0.50
ZboA:						
Zipp----------	Moderately suited:		Moderately suited:		Poorly suited:	
	Stickiness	0.50	Stickiness	0.50	Wetness	1.00
					Low strength	0.50

Table 10d.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
AddA:		
Avonburg	High:	
	Wetness	1.00
AddB2:		
Avonburg	High:	
	Wetness	1.00
AfsB:		
Alvin	Low	
Princeton	Low	
AfsC2:		
Alvin	Low	
Princeton	Low	
AmkA:		
Ayrshire	High:	
	Wetness	1.00
BbhA:		
Bartle	High:	
	Wetness	1.00
BbiB:		
Bartle	High:	
	Wetness	1.00
Pekin	Low	
BcrAW:		
Beanblossom	Low	
BdhAH:		
Bellcreek	High:	
	Wetness	1.00
BfbAH:		
Bellcreek	High:	
	Wetness	1.00
BgeAW:		
Birds	High:	
	Wetness	1.00

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
BlgC2:		
Blocher	Low	
Cincinnati	Low	
BlgC3:		
Blocher	Low	
Cincinnati	High: Wetness	1.00
BlhD2:		
Blocher	Low	
Bonnell	Low	
BluC:		
Bloomfield	Low	
Alvin	Low	
BnuD3:		
Bonnell	Low	
Hickory	Low	
Blocher	Low	
BobE5:		
Bonnell, gullied	Low	
Hickory, gullied	Low	
BodAV:		
Bonnie	High: Wetness	1.00
CldB2:		
Cincinnati	Low	
Blocher	Low	
ClfA:		
Cobbsfork	High: Wetness	1.00
CmbAW:		
Cohoctah	High: Wetness	1.00
CmzA:		
Cliftycreek	Low	
CmzB2:		
Cliftycreek	Low	
CmzC2:		
Cliftycreek	Low	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality: Rating class and limiting features	Value
ColD2:		
Coolville	Moderate:	
	Wetness	0.50
	Soil reaction	0.50
Rarden	High:	
	Wetness	1.00
	Soil reaction	0.50
Stonehead	Moderate:	
	Soil reaction	0.50
ConC3:		
Coolville	Moderate:	
	Wetness	0.50
	Soil reaction	0.50
Rarden	High:	
	Wetness	1.00
	Soil reaction	0.50
CudA:		
Crosby	High:	
	Wetness	1.00
CulB:		
Crosby	High:	
	Wetness	1.00
Williamstown	Low	
CxdA:		
Cyclone	High:	
	Wetness	1.00
DbqE:		
Deam, very deep	Moderate:	
	Soil reaction	0.50
EcyAH:		
Eel	Low	
EcyAW:		
Eel	Low	
EdeAW:		
Eel	Low	
EepAQ:		
Elkinsville	Low	
FdbA:		
Fincastle	High:	
	Wetness	1.00
FdqB:		
Fincastle	High:	
	Wetness	1.00

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
FdqB:		
Xenia	Low	
FexA:		
Fox	Low	
FexAQ:		
Fox	Low	
FexB2:		
Fox	Low	
FgqC3:		
Fox	Low	
Casco	Low	
GccAH:		
Genesee	Low	
GccAW:		
Genesee	Low	
GcpAW:		
Genesee	Low	
GgbG:		
Gilwood	Low	
Brownstown	Low	
GgfD2:		
Gilwood	Low	
Wrays	Low	
HcgAW:		
Haymond	Low	
HctAW:		
Haymond	Low	
Wirt	Low	
HeoF:		
Hickory	Low	
HleAW:		
Holton	High:	
	Wetness	1.00
KugG:		
Kurtz	Moderate:	
	Soil reaction	0.50
Gnawbone	Moderate:	
	Soil reaction	0.50

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
LeaA:		
Lauer	High: Wetness	1.00
MecAQ:		
Martinsville	Low	
MecB:		
Martinsville	Low	
MfwA:		
Martinsville, sandy substratum	Low	
MfwAQ:		
Martinsville, sandy substratum	Low	
MfwB2:		
Martinsville, sandy substratum	Low	
MfxA:		
Martinsville, sandy substratum	Low	
MhuA:		
McGary	High: Wetness	1.00
MhyB:		
Medora	Low	
MhyC2:		
Medora	Low	
MjjAH:		
Medway	Low	
MmoC3:		
Miami	Low	
MmoD3:		
Miami	Low	
MnpB2:		
Miami	Low	
MnpC2:		
Miami	Low	
MnpD2:		
Miami	Low	
MqbA:		
Milton	Low	
MqbB2:		
Milton	Low	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
MqbC2:		
Milton	Low	
MrbF:		
Milton	Low	
Rock outcrop	Not rated	
NaaB2:		
Nabb	Low	
NpcA:		
Nineveh	Low	
NpcAQ:		
Nineveh	Low	
NpeA:		
Nineveh	Low	
NpeAQ:		
Nineveh	Low	
NpeB2:		
Nineveh	Low	
ObaA:		
Ockley	Low	
OfaAW:		
Oldenburg	Low	
Omz:		
Orthents, earthen dam.	Not rated	
PcrB2:		
Pekin	Low	
PcrC2:		
Pekin	Low	
PcrC3:		
Pekin	High:	
	Wetness	1.00
PhaA:		
Peoga	High:	
	Wetness	1.00
PlpAV:		
Piopolis	High:	
	Wetness	1.00
Pml:		
Pits, quarry	Not rated	
PnnD:		
Pike	Low	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
MqbB2:		
Chetwynd	Low	
PnnF:		
Pike	Low	
Chetwynd	Low	
Ppu:		
Pits, sand and gravel	Not rated	
RctD3:		
Rarden	High:	
	Wetness	1.00
	Soil reaction	0.50
Coolville	Moderate:	
	Wetness	0.50
	Soil reaction	0.50
RehA:		
Rensselaer	High:	
	Wetness	1.00
Treaty	High:	
	Wetness	1.00
ReyA:		
Rensselaer	High:	
	Wetness	1.00
ReyAQ:		
Rensselaer	High:	
	Wetness	1.00
RqaG:		
Rodman	Low	
RtxAH:		
Rossburg	Low	
RtxAK:		
Rossburg	Low	
RywB2:		
Russell	Low	
SfyA:		
Shircliff	Low	
SifE:		
Senachwine	Low	
SifG:		
Senachwine	Low	
SldAH:		
Shoals	High:	
	Wetness	1.00

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
SldAW:		
Shoals	High:	
	Wetness	1.00
SnfA:		
Sleeth	High:	
	Wetness	1.00
SoaB:		
Spickert	Low	
SocAH:		
Sloan	High:	
	Wetness	1.00
SocAW:		
Sloan	High:	
	Wetness	1.00
SoeC2:		
Spickert	Low	
Wrays	Low	
SolC2:		
Spickert	Low	
Wrays	Low	
SolC3:		
Spickert	Moderate:	
	Wetness	0.50
Wrays	Low	
StaAV:		
Steff	Low	
StdAQ:		
Stendal	High:	
	Wetness	1.00
StdAV:		
Stendal	High:	
	Wetness	1.00
StmB:		
Stonehead	Moderate:	
	Soil reaction	0.50
SucC2:		
Stonehead	Moderate:	
	Soil reaction	0.50
Coolville	Moderate:	
	Wetness	0.50
	Soil reaction	0.50

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
SujD5:		
Stonehead, gullied--	Moderate:	
	Wetness	0.50
	Soil reaction	0.50
SulC2:		
Stonehead----------	Moderate:	
	Soil reaction	0.50
Wellrock----------	Moderate:	
	Soil reaction	0.50
SuoAH:		
Stonelick----------	Moderate:	
	Lime	0.50
	Soil reaction	0.50
Uaz:		
Udorthents, sandy---	Not rated	
Uby:		
Udorthents, loamy---	Not rated	
UemB:		
Urban land----------	Not rated	
Alvin----------	Low	
Princeton----------	Low	
UemC:		
Urban land----------	Not rated	
Alvin----------	Low	
Princeton----------	Low	
UenA:		
Urban land----------	Not rated	
Fox----------	Low	
UenB:		
Urban land----------	Not rated	
Fox----------	Low	
UepC:		
Urban land----------	Not rated	
Fox----------	Low	
Casco----------	Low	
UfcB:		
Urban land----------	Not rated	
Cincinnati----------	Low	
Nabb----------	Low	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
UfdA:		
Urban land	Not rated	
Cobbsfork	High:	
	Wetness	1.00
Avonburg	High:	
	Wetness	1.00
UfnA:		
Urban land	Not rated	
Crosby	High:	
	Wetness	1.00
UfoA:		
Urban land	Not rated	
Cyclone	High:	
	Wetness	1.00
UfxA:		
Urban land	Not rated	
Fincastle	High:	
	Wetness	1.00
UfyB:		
Urban land	Not rated	
Fincastle	High:	
	Wetness	1.00
Russell	Low	
UhyA:		
Urban land	Not rated	
Martinsville, sandy substratum	Low	
UkbC:		
Urban land	Not rated	
Miami	Low	
UkpA:		
Urban land	Not rated	
Ockley	Low	
UkqA:		
Urban land	Not rated	
Nineveh	Low	
UkqB:		
Urban land	Not rated	
Nineveh	Low	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
UmqA:		
Urban land	Not rated	
Sleeth	High:	
	Wetness	1.00
UnnA:		
Urban land	Not rated	
Westland	High:	
	Wetness	1.00
Usl:		
Udorthents, rubbish-	Not rated	
W:		
Water	Not rated	
WaaAV:		
Wakeland	High:	
	Wetness	1.00
WaaAW:		
Wakeland	High:	
	Wetness	1.00
WacAW:		
Wakeland	High:	
	Wetness	1.00
Birds	High:	
	Wetness	1.00
WbiAW:		
Wilbur	Low	
Wakeland	High:	
	Wetness	1.00
WdlC2:		
Wawaka	Low	
WdrB2:		
Wawaka	Low	
WokAW:		
Wilbur	Low	
WolAV:		
Wilhite	High:	
	Wetness	1.00
WprAV:		
Wirt	Low	
WprAW:		
Wirt	Low	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
WqlA:		
Westland	High:	
	Wetness	1.00
WqlAQ:		
Westland	High:	
	Wetness	1.00
WsuA:		
Whitaker	High:	
	Wetness	1.00
WsyAQ:		
Whitaker	High:	
	Wetness	1.00
WufB2:		
Williamstown	Low	
XabB2:		
Xenia	Low	
XfuB2:		
Miami	Low	
Rainsville	Low	
XrbC2:		
Miami	Low	
Rainsville	Low	
XrkD2:		
Miami	Low	
Kendallville	Low	
ZboA:		
Zipp	High:	
	Wetness	1.00

Table 11a.--Recreation

(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
AddA:						
Avonburg	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	0.88	Restricted permeability	0.88	Restricted permeability	0.88
AddB2:						
Avonburg	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	0.88	Restricted permeability	0.88	Restricted permeability	0.88
					Slope	0.15
AfsB:						
Alvin	Not limited		Not limited		Somewhat limited:	
					Slope	0.55
Princeton	Not limited		Not limited		Somewhat limited:	
					Slope	0.55
AfsC2:						
Alvin	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.04	Slope	0.04	Slope	1.00
Princeton	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.04	Slope	0.04	Slope	1.00
AmkA:						
Ayrshire	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BbhA:						
Bartle	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	0.88	Restricted permeability	0.88	Restricted permeability	0.88
BbiB:						
Bartle	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	0.88	Restricted permeability	0.88	Restricted permeability	0.88
					Slope	0.15
Pekin	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.98	Restricted permeability	0.88	Depth to saturated zone	0.98
	Restricted permeability	0.88	Depth to saturated zone	0.75	Restricted permeability	0.88
					Slope	0.55

Table 11a.--Recreation--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
BcrAW:						
Beanblossom	Very limited:		Not limited		Somewhat limited:	
	Flooding	1.00			Flooding	0.60
BdhAH:						
Bellcreek	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
BfbAH:						
Bellcreek	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
BgeAW:						
Birds	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00			Flooding	0.60
BlgC2:						
Blocher	Somewhat limited:		Somewhat limited:		Very limited:	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	0.96
Cincinnati	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	0.39	Depth to saturated zone	0.19	Restricted permeability	1.00
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.39
BlgC3:						
Blocher	Somewhat limited:		Somewhat limited:		Very limited:	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	0.96
Cincinnati	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Restricted permeability	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Depth to saturated zone	0.96	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	1.00
BlhD2:						
Blocher	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.96	Slope	0.96	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96

Table 11a.--Recreation--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
BlhD2:						
Bonnell----------	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
BluC:						
Bloomfield----------	Somewhat limited:		Somewhat limited:		Very limited:	
	Too sandy	0.92	Too sandy	0.92	Slope	1.00
	Slope	0.16	Slope	0.16	Too sandy	0.92
Alvin----------	Somewhat limited:		Somewhat limited:		Very limited:	
	Too sandy	0.92	Too sandy	0.92	Slope	1.00
	Slope	0.16	Slope	0.16	Too sandy	0.92
BnuD3:						
Bonnell----------	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
Hickory----------	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
Blocher----------	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.96	Slope	0.96	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
BobE5:						
Bonnell, gullied----	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.43	Restricted permeability	0.43	Restricted permeability	0.43
Hickory, gullied----	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
BodAV:						
Bonnie----------	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
CldB2:						
Cincinnati----------	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
					Slope	0.55
Blocher----------	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.55

Table 11a.--Recreation--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
ClfA:						
Cobbsfork	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.88	Restricted permeability	0.88	Restricted permeability	0.88
CmbAW:						
Cohoctah	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00			Flooding	0.60
CmzA:						
Cliftycreek	Not limited		Not limited		Not limited	
CmzB2:						
Cliftycreek	Not limited		Not limited		Somewhat limited:	
					Slope	0.55
CmzC2:						
Cliftycreek	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.04	Slope	0.04	Slope	1.00
ColD2:						
Coolville	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.98	Restricted permeability	0.98	Restricted permeability	0.98
Rarden	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.98	Restricted permeability	0.98	Restricted permeability	0.98
					Depth to bedrock	0.03
Stonehead	Somewhat limited:		Somewhat limited:		Very limited:	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
	Slope	0.84	Slope	0.84	Restricted permeability	0.96
ConC3:						
Coolville	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	0.98	Restricted permeability	0.98	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	0.98

Table 11a.--Recreation--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
ConC3:						
Rarden	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	0.98	Restricted permeability	0.98	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	0.98
					Depth to bedrock	0.03
CudA:						
Crosby	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	1.00	Restricted permeability	1.00	Restricted permeability	1.00
CulB:						
Crosby	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	1.00	Restricted permeability	1.00	Restricted permeability	1.00
					Slope	0.15
Williamstown	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
					Slope	0.15
CxdA:						
Cyclone	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
DbqE:						
Deam, very deep	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
EcyAH:						
Eel	Very limited:		Somewhat limited:		Very limited:	
	Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
	Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
EcyAW:						
Eel	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
EdeAW:						
Eel	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 11a.--Recreation--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
EepAQ:						
Elkinsville	Very limited: Flooding	1.00	Not limited		Not limited	
FdbA:						
Fincastle	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
FdqB:						
Fincastle	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
					Slope	0.15
Xenia	Somewhat limited: Depth to saturated zone	0.98	Somewhat limited: Depth to saturated zone	0.75	Somewhat limited: Depth to saturated zone	0.98
					Slope	0.15
FexA:						
Fox	Not limited		Not limited		Not limited	
FexAQ:						
Fox	Very limited: Flooding	1.00	Not limited		Not limited	
FexB2:						
Fox	Not limited		Not limited		Somewhat limited: Slope	0.55
FgqC3:						
Fox	Somewhat limited: Slope	0.04	Somewhat limited: Slope	0.04	Very limited: Slope	1.00
Casco	Somewhat limited: Slope	0.04	Somewhat limited: Slope	0.04	Very limited: Slope	1.00
GccAH:						
Genesee	Very limited: Flooding	1.00	Somewhat limited: Flooding	0.40	Very limited: Flooding	1.00
GccAW:						
Genesee	Very limited: Flooding	1.00	Not limited		Somewhat limited: Flooding	0.60
GcpAW:						
Genesee	Very limited: Flooding	1.00	Not limited		Somewhat limited: Flooding	0.60
GgbG:						
Gilwood	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
					Depth to bedrock	0.29
					Gravel content	0.22
Brownstown	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
					Depth to bedrock	0.06

Table 11a.--Recreation--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
GgfD2:						
Gilwood	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.29
Wrays	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.96	Slope	0.96	Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
HcgAW:						
Haymond	Very limited:		Not limited		Somewhat limited:	
	Flooding	1.00			Flooding	0.60
HctAW:						
Haymond	Very limited:		Not limited		Somewhat limited:	
	Flooding	1.00			Flooding	0.60
Wirt	Very limited:		Not limited		Somewhat limited:	
	Flooding	1.00			Flooding	0.60
HeoF:						
Hickory	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
HleAW:						
Holton	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			Flooding	0.60
KugG:						
Kurtz	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
Gnawbone	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.01
LeaA:						
Lauer	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
MecAQ:						
Martinsville	Very limited:		Not limited		Not limited	
	Flooding	1.00				
MecB:						
Martinsville	Not limited		Not limited		Somewhat limited:	
					Slope	0.55
MfwA:						
Martinsville, sandy substratum	Not limited		Not limited		Not limited	
MfwAQ:						
Martinsville, sandy substratum	Very limited:		Not limited		Not limited	
	Flooding	1.00				

Table 11a.--Recreation--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
MfwB2:						
Martinsville, sandy substratum	Not limited		Not limited		Somewhat limited:	
					Slope	0.55
MfxA:						
Martinsville, sandy substratum	Not limited		Not limited		Not limited	
MhuA:						
McGary	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	0.43	Restricted permeability	0.43	Restricted permeability	0.43
MhyB:						
Medora	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Restricted permeability	0.88	Restricted permeability	0.88	Restricted permeability	0.88
					Slope	0.55
MhyC2:						
Medora	Somewhat limited:		Somewhat limited:		Very limited:	
	Restricted permeability	0.88	Restricted permeability	0.88	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	0.88
MjjAH:						
Medway	Very limited:		Somewhat limited:		Very limited:	
	Flooding	1.00	Depth to saturated zone	0.43	Flooding	1.00
	Depth to saturated zone	0.77	Flooding	0.40	Depth to saturated zone	0.77
MmoC3:						
Miami	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	1.00
MmoD3:						
Miami	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Restricted permeability	1.00
MnpB2:						
Miami	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
					Slope	0.55
MnpC2:						
Miami	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	1.00

Table 11a.--Recreation--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
MnpD2:						
Miami	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Restricted permeability	1.00
MqbA:						
Milton	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
MqbB2:						
Milton	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	0.55
					Depth to bedrock	0.35
					Restricted permeability	0.21
MqbC2:						
Milton	Somewhat limited:		Somewhat limited:		Very limited:	
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	1.00
	Slope	0.04	Slope	0.04	Depth to bedrock	0.35
					Restricted permeability	0.21
MrbF:						
Milton	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Depth to bedrock	0.84
					Restricted permeability	0.21
					Content of large stones	0.01
Rock outcrop	Not rated		Not rated		Not rated	
NaaB2:						
Nabb	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
					Slope	0.55
NpcA:						
Nineveh	Somewhat limited:		Somewhat limited:		Very limited:	
	Gravel content	0.32	Gravel content	0.32	Gravel content	1.00
NpcAQ:						
Nineveh	Very limited:		Somewhat limited:		Very limited:	
	Flooding	1.00	Gravel content	0.32	Gravel content	1.00
	Gravel content	0.32				
NpeA:						
Nineveh	Not limited		Not limited		Not limited	
NpeAQ:						
Nineveh	Very limited:		Not limited		Not limited	
	Flooding	1.00				

Table 11a.--Recreation--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
NpeB2:						
Nineveh	Not limited		Not limited		Somewhat limited:	
					Slope	0.55
ObaA:						
Ockley	Not limited		Not limited		Not limited	
OfaAW:						
Oldenburg	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
Omz:						
Orthents, earthen dam	Not rated		Not rated		Not rated	
PcrB2:						
Pekin	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.98	Restricted permeability	0.88	Depth to saturated zone	0.98
	Restricted permeability	0.88	Depth to saturated zone	0.75	Restricted permeability	0.88
					Slope	0.55
PcrC2:						
Pekin	Somewhat limited:		Somewhat limited:		Very limited:	
	Depth to saturated zone	0.98	Restricted permeability	0.88	Slope	1.00
	Restricted permeability	0.88	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Slope	0.04	Slope	0.04	Restricted permeability	0.88
PcrC3:						
Pekin	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	0.88	Restricted permeability	0.88	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	0.88
PhaA:						
Peoga	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.88	Restricted permeability	0.88	Restricted permeability	0.88
PlpAV:						
Piopolis	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Restricted permeability	0.96	Ponding	1.00
	Restricted permeability	0.96	Flooding	0.40	Restricted permeability	0.96
Pml:						
Pits, quarry	Not rated		Not rated		Not rated	

Table 11a.--Recreation--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
PnnD:						
Pike	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
Chetwynd	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
PnnF:						
Pike	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
Chetwynd	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
Ppu:						
Pits, sand and gravel	Not rated		Not rated		Not rated	
RctD3:						
Rarden	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.98	Restricted permeability	0.98	Restricted permeability	0.98
					Depth to bedrock	0.29
Coolville	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.98	Restricted permeability	0.98	Restricted permeability	0.98
RehA:						
Rensselaer	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
Treaty	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
ReyA:						
Rensselaer	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
ReyAQ:						
Rensselaer	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00				

Table 11a.--Recreation--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
RqaG:						
Rodman	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
					Gravel content	0.01
RtxAH:						
Rossburg	Very limited:		Somewhat limited:		Very limited:	
	Flooding	1.00	Flooding	0.40	Flooding	1.00
RtxAK:						
Rossburg	Very limited:		Not limited		Somewhat limited:	
	Flooding	1.00			Flooding	0.60
RywB2:						
Russell	Not limited		Not limited		Somewhat limited:	
					Slope	0.50
SfyA:						
Shircliff	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	0.43	Restricted permeability	0.43	Restricted permeability	0.43
SifE:						
Senachwine	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.98	Restricted permeability	0.98	Restricted permeability	0.98
SifG:						
Senachwine	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.98	Restricted permeability	0.98	Restricted permeability	0.98
SldAH:						
Shoals	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	Flooding	0.40	Flooding	1.00
SldAW:						
Shoals	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			Flooding	0.60
SnfA:						
Sleeth	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
SoaB:						
Spickert	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.98	Restricted permeability	0.88	Depth to saturated zone	0.98
	Restricted permeability	0.88	Depth to saturated zone	0.75	Restricted permeability	0.88
					Slope	0.55

Table 11a.--Recreation--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
SocAH:						
Sloan	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
SocAW:						
Sloan	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00			Flooding	0.60
SoeC2:						
Spickert	Somewhat limited:		Somewhat limited:		Very limited:	
	Depth to saturated zone	0.98	Restricted permeability	0.88	Slope	1.00
	Restricted permeability	0.88	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Slope	0.04	Slope	0.04	Restricted permeability	0.88
Wrays	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.96	Slope	0.96	Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
SolC2:						
Spickert	Somewhat limited:		Somewhat limited:		Very limited:	
	Depth to saturated zone	0.98	Restricted permeability	0.88	Slope	1.00
	Restricted permeability	0.88	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Slope	0.04	Slope	0.04	Restricted permeability	0.88
Wrays	Somewhat limited:		Somewhat limited:		Very limited:	
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	0.21
SolC3:						
Spickert	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	0.88	Restricted permeability	0.88	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	0.88
Wrays	Somewhat limited:		Somewhat limited:		Very limited:	
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	0.21
StaAV:						
Steff	Very limited:		Somewhat limited:		Very limited:	
	Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
	Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98

Table 11a.--Recreation--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
StdAQ:						
Stendal	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				
StdAV:						
Stendal	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	Flooding	0.40	Flooding	1.00
StmB:						
Stonehead	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.55
SucC2:						
Stonehead	Somewhat limited:		Somewhat limited:		Very limited:	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	0.96
Coolville	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	0.98	Restricted permeability	0.98	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	0.98
SujD5:						
Stonehead, gullied	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.98	Restricted permeability	0.98	Restricted permeability	0.98
SulC2:						
Stonehead	Somewhat limited:		Somewhat limited:		Very limited:	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
	Slope	0.16	Slope	0.16	Restricted permeability	0.96
Wellrock	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.84	Slope	0.84	Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
SuoAH:						
Stonelick	Very limited:		Somewhat limited:		Very limited:	
	Flooding	1.00	Flooding	0.40	Flooding	1.00
Uaz:						
Udorthents, sandy	Not rated		Not rated		Not rated	
Uby:						
Udorthents, loamy	Not rated		Not rated		Not rated	

Table 11a.--Recreation--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
UemB:						
Urban land	Not rated		Not rated		Not rated	
Alvin	Not limited		Not limited		Somewhat limited:	
					Slope	0.55
Princeton	Not limited		Not limited		Somewhat limited:	
					Slope	0.55
UemC:						
Urban land	Not rated		Not rated		Not rated	
Alvin	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.04	Slope	0.04	Slope	1.00
Princeton	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.04	Slope	0.04	Slope	1.00
UenA:						
Urban land	Not rated		Not rated		Not rated	
Fox	Not limited		Not limited		Not limited	
UenB:						
Urban land	Not rated		Not rated		Not rated	
Fox	Not limited		Not limited		Somewhat limited:	
					Slope	0.55
UepC:						
Urban land	Not rated		Not rated		Not rated	
Fox	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.04	Slope	0.04	Slope	1.00
Casco	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.04	Slope	0.04	Slope	1.00
UfcB:						
Urban land	Not rated		Not rated		Not rated	
Cincinnati	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	1.00
Nabb	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
					Slope	0.55
UfdA:						
Urban land	Not rated		Not rated		Not rated	

Table 11a.--Recreation--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
UfdA:						
Cobbsfork	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
Avonburg	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	0.88	Restricted permeability	0.88	Restricted permeability	0.88
UfnA:						
Urban land	Not rated		Not rated		Not rated	
Crosby	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	1.00	Restricted permeability	1.00	Restricted permeability	1.00
UfoA:						
Urban land	Not rated		Not rated		Not rated	
Cyclone	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
UfxA:						
Urban land	Not rated		Not rated		Not rated	
Fincastle	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
UfyB:						
Urban land	Not rated		Not rated		Not rated	
Fincastle	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Slope	0.15
Russell	Not limited		Not limited		Somewhat limited:	
					Slope	0.55
UhyA:						
Urban land	Not rated		Not rated		Not rated	
Martinsville, sandy substratum	Not limited		Not limited		Not limited	
UkbC:						
Urban land	Not rated		Not rated		Not rated	

Table 11a.--Recreation--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
UfdA:						
Miami	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	1.00
UkpA:						
Urban land	Not rated		Not rated		Not rated	
Ockley	Not limited		Not limited		Not limited	
UkqA:						
Urban land	Not rated		Not rated		Not rated	
Nineveh	Not limited		Not limited		Not limited	
UkqB:						
Urban land	Not rated		Not rated		Not rated	
Nineveh	Not limited		Not limited		Somewhat limited:	
					Slope	0.55
UmqA:						
Urban land	Not rated		Not rated		Not rated	
Sleeth	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
UnnA:						
Urban land	Not rated		Not rated		Not rated	
Westland	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
Usl:						
Udorthents, rubbish-	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	
WaaAV:						
Wakeland	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	Flooding	0.40	Flooding	1.00
WaaAW:						
Wakeland	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			Flooding	0.60
WacAW:						
Wakeland	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			Flooding	0.60

Table 11a.--Recreation--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
WacAW:						
Birds	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00			Flooding	0.60
WbiAW:						
Wilbur	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
Wakeland	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			Flooding	0.60
WdlC2:						
Wawaka	Somewhat limited:		Somewhat limited:		Very limited:	
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	0.21
WdrB2:						
Wawaka	Not limited		Not limited		Somewhat limited:	
					Slope	0.55
WokAW:						
Wilbur	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
WolAV:						
Wilhite	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Restricted permeability	1.00	Ponding	1.00
	Restricted permeability	1.00	Too clayey	1.00	Restricted permeability	1.00
	Too clayey	1.00	Flooding	0.40	Too clayey	1.00
WprAV:						
Wirt	Very limited:		Somewhat limited:		Very limited:	
	Flooding	1.00	Flooding	0.40	Flooding	1.00
WprAW:						
Wirt	Very limited:		Not limited		Somewhat limited:	
	Flooding	1.00			Flooding	0.60
WqlA:						
Westland	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00

Table 11a.--Recreation--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
WqlAQ:						
Westland	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00				
WsuA:						
Whitaker	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
WsyAQ:						
Whitaker	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				
WufB2:						
Williamstown	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
					Slope	0.55
XabB2:						
Xenia	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
					Slope	0.55
XfuB2:						
Miami	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
					Slope	0.55
Rainsville	Not limited		Not limited		Somewhat limited:	
					Slope	0.55
XrbC2:						
Miami	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Restricted permeability	1.00
Rainsville	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.04	Slope	0.04	Slope	1.00
XrkD2:						
Miami	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Slope	1.00
	Slope	0.96	Slope	0.96	Restricted permeability	1.00
Kendallville	Very limited:		Very limited:		Very limited:	
	Restricted permeability	1.00	Restricted permeability	1.00	Slope	1.00
	Slope	0.96	Slope	0.96	Restricted permeability	1.00

Table 11a.--Recreation--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
ZboA:						
Zipp	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96

Table 11b.--Recreation

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AddA:						
Avonburg	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
AddB2:						
Avonburg	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
AfsB:						
Alvin	Not limited		Not limited		Not limited	
Princeton	Not limited		Not limited		Not limited	
AfsC2:						
Alvin	Not limited		Not limited		Somewhat limited:	
					Slope	0.04
Princeton	Not limited		Not limited		Somewhat limited:	
					Slope	0.04
AmkA:						
Ayrshire	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BbhA:						
Bartle	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BbiB:						
Bartle	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Pekin	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
BcrAW:						
Beanblossom	Not limited		Not limited		Somewhat limited:	
					Flooding	0.60
BdhAH:						
Bellcreek	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00

Table 11b.--Recreation--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
BfbAH:						
Bellcreek	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
BgeAW:						
Birds	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
					Flooding	0.60
BlgC2:						
Blocher	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
Cincinnati	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.19
					Slope	0.04
BlgC3:						
Blocher	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
Cincinnati	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.96
	Depth to saturated zone	0.92	Depth to saturated zone	0.92	Slope	0.04
BlhD2:						
Blocher	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
Bonnell	Very limited:		Very limited:		Very limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.32				
BluC:						
Bloomfield	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Too sandy	0.92	Too sandy	0.92	Slope	0.16
					Droughty	0.01
Alvin	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Too sandy	0.92	Too sandy	0.92	Slope	0.16
BnuD3:						
Bonnell	Somewhat limited:		Not limited		Very limited:	
	Slope	0.32			Slope	1.00
Hickory	Somewhat limited:		Not limited		Very limited:	
	Slope	0.50			Slope	1.00
Blocher	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
BobE5:						
Bonnell, gullied	Somewhat limited:		Not limited		Very limited:	
	Slope	0.92			Slope	1.00

Table 11b.--Recreation--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
BobE5:						
Hickory, gullied	Somewhat limited:		Not limited		Very limited:	
	Slope	0.92			Slope	1.00
BodAV:						
Bonnie	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
CldB2:						
Cincinnati	Not limited		Not limited		Not limited	
Blocher	Not limited		Not limited		Not limited	
ClfA:						
Cobbsfork	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
CmbAW:						
Cohoctah	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
					Flooding	0.60
CmzA:						
Cliftycreek	Not limited		Not limited		Not limited	
CmzB2:						
Cliftycreek	Not limited		Not limited		Not limited	
CmzC2:						
Cliftycreek	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
ColD2:						
Coolville	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.01				
Rarden	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.01			Depth to bedrock	0.03
Stonehead	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.84
ConC3:						
Coolville	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Water erosion	1.00	Water erosion	1.00	Slope	0.04

Table 11b.--Recreation--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
ConC3:						
Rarden	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
					Depth to bedrock	0.03
CudA:						
Crosby	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
CulB:						
Crosby	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Williamstown	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
CxdA:						
Cyclone	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
DbqE:						
Deam, very deep	Very limited:		Very limited:		Very limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.18				
EcyAH:						
Eel	Somewhat limited:		Somewhat limited:		Very limited:	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
EcyAW:						
Eel	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
EdeAW:						
Eel	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
EepAQ:						
Elkinsville	Not limited		Not limited		Not limited	
FdbA:						
Fincastle	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 11b.--Recreation--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
FdqB:						
Fincastle	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
Xenia	Somewhat limited: Depth to saturated zone	0.44	Somewhat limited: Depth to saturated zone	0.44	Somewhat limited: Depth to saturated zone	0.75
FexA:						
Fox	Not limited		Not limited		Not limited	
FexAQ:						
Fox	Not limited		Not limited		Not limited	
FexB2:						
Fox	Not limited		Not limited		Not limited	
FgqC3:						
Fox	Not limited		Not limited		Somewhat limited: Slope	0.04
Casco	Not limited		Not limited		Somewhat limited: Slope	0.04
					Droughty	0.01
GccAH:						
Genesee	Somewhat limited: Flooding	0.40	Somewhat limited: Flooding	0.40	Very limited: Flooding	1.00
GccAW:						
Genesee	Not limited		Not limited		Somewhat limited: Flooding	0.60
GcpAW:						
Genesee	Not limited		Not limited		Somewhat limited: Flooding	0.60
GgbG:						
Gilwood	Very limited: Slope	1.00	Somewhat limited: Slope	0.96	Very limited: Slope	1.00
					Depth to bedrock	0.29
Brownstown	Very limited: Slope	1.00	Very limited: Slope	1.00	Very limited: Slope	1.00
					Depth to bedrock	0.06
					Droughty	0.01
GgfD2:						
Gilwood	Somewhat limited: Slope	0.08	Not limited		Very limited: Slope	1.00
					Depth to bedrock	0.29
Wrays	Very limited: Water erosion	1.00	Very limited: Water erosion	1.00	Somewhat limited: Slope	0.96
HcgAW:						
Haymond	Not limited		Not limited		Somewhat limited: Flooding	0.60

Table 11b.--Recreation--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
HctAW:						
Haymond	Not limited		Not limited		Somewhat limited: Flooding	0.60
Wirt	Not limited		Not limited		Somewhat limited: Flooding	0.60
HeoF:						
Hickory	Very limited: Slope	1.00	Very limited: Water erosion	1.00	Very limited: Slope	1.00
	Water erosion	1.00	Slope	0.92		
HleAW:						
Holton	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
					Flooding	0.60
KugG:						
Kurtz	Very limited: Water erosion	1.00	Very limited: Water erosion	1.00	Very limited: Slope	1.00
	Slope	1.00	Slope	0.78		
Gnawbone	Very limited: Water erosion	1.00	Very limited: Water erosion	1.00	Very limited: Slope	1.00
	Slope	1.00	Slope	1.00	Depth to bedrock	0.01
LeaA:						
Lauer	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
MecAQ:						
Martinsville	Not limited		Not limited		Not limited	
MecB:						
Martinsville	Not limited		Not limited		Not limited	
MfwA:						
Martinsville, sandy substratum	Not limited		Not limited		Not limited	
MfwAQ:						
Martinsville, sandy substratum	Not limited		Not limited		Not limited	
MfwB2:						
Martinsville, sandy substratum	Not limited		Not limited		Not limited	
MfxA:						
Martinsville, sandy substratum	Not limited		Not limited		Not limited	
MhuA:						
McGary	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00	Very limited: Depth to saturated zone	1.00
MhyB:						
Medora	Not limited		Not limited		Not limited	

Table 11b.--Recreation--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
MhyC2:						
Medora	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
MjjAH:						
Medway	Somewhat limited:		Somewhat limited:		Very limited:	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
	Depth to saturated zone	0.08	Depth to saturated zone	0.08	Depth to saturated zone	0.43
MmoC3:						
Miami	Not limited		Not limited		Somewhat limited:	
					Slope	0.04
MmoD3:						
Miami	Somewhat limited:		Not limited		Very limited:	
	Slope	0.01			Slope	1.00
MnpB2:						
Miami	Not limited		Not limited		Not limited	
MnpC2:						
Miami	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
MnpD2:						
Miami	Very limited:		Very limited:		Very limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.01				
MqbA:						
Milton	Not limited		Not limited		Somewhat limited:	
					Depth to bedrock	0.35
MqbB2:						
Milton	Not limited		Not limited		Somewhat limited:	
					Depth to bedrock	0.35
MqbC2:						
Milton	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Depth to bedrock	0.35
					Slope	0.04
MrbF:						
Milton	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	0.78	Depth to bedrock	0.84
					Content of large stones	0.01
Rock outcrop	Not rated		Not rated		Not rated	
NaaB2:						
Nabb	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
NpcA:						
Nineveh	Not limited		Not limited		Somewhat limited:	
					Gravel content	0.32
					Droughty	0.02

Table 11b.--Recreation--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
NpcAQ:						
Nineveh	Not limited		Not limited		Somewhat limited:	
					Gravel content	0.32
					Droughty	0.02
NpeA:						
Nineveh	Not limited		Not limited		Not limited	
NpeAQ:						
Nineveh	Not limited		Not limited		Not limited	
NpeB2:						
Nineveh	Not limited		Not limited		Not limited	
ObaA:						
Ockley	Not limited		Not limited		Not limited	
OfaAW:						
Oldenburg	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
Omz:						
Orthents, earthen dam	Not rated		Not rated		Not rated	
PcrB2:						
Pekin	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
PcrC2:						
Pekin	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04
PcrC3:						
Pekin	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
PhaA:						
Peoga	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
PlpAV:						
Piopolis	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
Pml:						
Pits, quarry	Not rated		Not rated		Not rated	

Table 11b.--Recreation--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
PnnD:						
Pike	Very limited:		Very limited:		Very limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.01				
Chetwynd	Very limited:		Very limited:		Very limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.01				
PnnF:						
Pike	Very limited:		Very limited:		Very limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00	Slope	0.78		
Chetwynd	Very limited:		Very limited:		Very limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00	Slope	0.78		
Ppu:						
Pits, sand and gravel	Not rated		Not rated		Not rated	
RctD3:						
Rarden	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.08			Depth to bedrock	0.29
Coolville	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.01				
RehA:						
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	Ponding	1.00	Depth to saturated zone	1.00
Treaty	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
ReyA:						
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	Ponding	1.00	Depth to saturated zone	1.00
ReyAQ:						
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	Ponding	1.00	Depth to saturated zone	1.00

Table 11b.--Recreation--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
RqaG:						
Rodman	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
					Droughty	0.65
RtxAH:						
Rossburg	Somewhat limited:		Somewhat limited:		Very limited:	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
RtxAK:						
Rossburg	Not limited		Not limited		Somewhat limited:	
					Flooding	0.60
RywB2:						
Russell	Not limited		Not limited		Not limited	
SfyA:						
Shircliff	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
SifE:						
Senachwine	Very limited:		Very limited:		Very limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.50				
SifG:						
Senachwine	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00		
SldAH:						
Shoals	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
SldAW:						
Shoals	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
SnfA:						
Sleeth	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
SoaB:						
Spickert	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
SocAH:						
Sloan	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00

Table 11b.--Recreation--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
SocAW:						
Sloan	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
					Flooding	0.60
SoeC2:						
Spickert	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04
Wrays	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
SolC2:						
Spickert	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Slope	0.04
Wrays	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
SolC3:						
Spickert	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
Wrays	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
StaAV:						
Steff	Somewhat limited:		Somewhat limited:		Very limited:	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
StdAQ:						
Stendal	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
StdAV:						
Stendal	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
StmB:						
Stonehead	Not limited		Not limited		Not limited	
SucC2:						
Stonehead	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04

Table 11b.--Recreation--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
SucC2:						
Coolville	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
SujD5:						
Stonehead, gullied	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	0.02				
SulC2:						
Stonehead	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.16
Wellrock	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.84
SuoAH:						
Stonelick	Somewhat limited:		Somewhat limited:		Very limited:	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
Uaz:						
Udorthents, sandy	Not rated		Not rated		Not rated	
Uby:						
Udorthents, loamy	Not rated		Not rated		Not rated	
UemB:						
Urban land	Not rated		Not rated		Not rated	
Alvin	Not limited		Not limited		Not limited	
Princeton	Not limited		Not limited		Not limited	
UemC:						
Urban land	Not rated		Not rated		Not rated	
Alvin	Not limited		Not limited		Somewhat limited:	
					Slope	0.04
Princeton	Not limited		Not limited		Somewhat limited:	
					Slope	0.04
UenA:						
Urban land	Not rated		Not rated		Not rated	
Fox	Not limited		Not limited		Not limited	
UenB:						
Urban land	Not rated		Not rated		Not rated	
Fox	Not limited		Not limited		Not limited	
UepC:						
Urban land	Not rated		Not rated		Not rated	
Fox	Not limited		Not limited		Somewhat limited:	
					Slope	0.04

Table 11b.--Recreation--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
UepC:						
Casco	Not limited		Not limited		Somewhat limited:	
					Slope	0.04
					Droughty	0.01
UfcB:						
Urban land	Not rated		Not rated		Not rated	
Cincinnati	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
Nabb	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
UfdA:						
Urban land	Not rated		Not rated		Not rated	
Cobbsfork	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
Avonburg	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
UfnA:						
Urban land	Not rated		Not rated		Not rated	
Crosby	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
UfoA:						
Urban land	Not rated		Not rated		Not rated	
Cyclone	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
UfxA:						
Urban land	Not rated		Not rated		Not rated	
Fincastle	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
UfyB:						
Urban land	Not rated		Not rated		Not rated	
Fincastle	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Russell	Not limited		Not limited		Not limited	
UhyA:						
Urban Land	Not rated		Not rated		Not rated	

Table 11b.--Recreation--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
UhyA:						
Martinsville, sandy substratum	Not limited		Not limited		Not limited	
UkbC:						
Urban land	Not rated		Not rated		Not rated	
Miami	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
UkpA:						
Urban land	Not rated		Not rated		Not rated	
Ockley	Not limited		Not limited		Not limited	
UkqA:						
Urban land	Not rated		Not rated		Not rated	
Nineveh	Not limited		Not limited		Not limited	
UkqB:						
Urban land	Not rated		Not rated		Not rated	
Nineveh	Not limited		Not limited		Not limited	
UmqA:						
Urban land	Not rated		Not rated		Not rated	
Sleeth	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
UnnA:						
Urban land	Not rated		Not rated		Not rated	
Westland	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
Usl:						
Udorthents, rubbish	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	
WaaAV:						
Wakeland	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
WaaAW:						
Wakeland	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 11b.--Recreation--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
WacAW:						
Wakeland	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
Birds	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
					Flooding	0.60
WbiAW:						
Wilbur	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
Wakeland	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
WdlC2:						
Wawaka	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
WdrB2:						
Wawaka	Not limited		Not limited		Not limited	
WokAW:						
Wilbur	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
WolAV:						
Wilhite	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Too clayey	1.00	Too clayey	1.00	Depth to saturated zone	1.00
	Flooding	0.40	Flooding	0.40	Too clayey	1.00
WprAV:						
Wirt	Somewhat limited:		Somewhat limited:		Very limited:	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
WprAW:						
Wirt	Not limited		Not limited		Somewhat limited:	
					Flooding	0.60
WqlA:						
Westland	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00

Table 11b.--Recreation--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
WqlAQ:						
Westland	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
WsuA:						
Whitaker	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
WsyAQ:						
Whitaker	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
WufB2:						
Williamstown	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
XabB2:						
Xenia	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
XfuB2:						
Miami	Not limited		Not limited		Not limited	
Rainsville	Not limited		Not limited		Not limited	
XrbC2:						
Miami	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
Rainsville	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.04
XrkD2:						
Miami	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
Kendallville	Very limited:		Very limited:		Somewhat limited:	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
ZboA:						
Zipp	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00

Table 12.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Potential for habitat elements: 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
AddA:										
Avonburg	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
AddB2:										
Avonburg	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
AfsB:										
Alvin	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Princeton	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
AfsC2:										
Alvin	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Princeton	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
AmkA:										
Ayrshire	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
BbhA:										
Bartle	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
BbiB:										
Bartle	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Pekin	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Poor.
BcrAW:										
Beanblossom	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BdhAH:										
Bellcreek	Poor	Poor	Poor	Good	Good	Good	Good	Fair	Poor	Good.
BfbAH:										
Bellcreek	Poor	Poor	Poor	Good	Good	Good	Good	Fair	Poor	Good.
BgeAW:										
Birds	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
BlgC2:										
Blocher	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Cincinnati	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BlgC3:										
Blocher	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Cincinnati	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: 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
BlhD2:										
Blocher	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Bonnell	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
BluC:										
Bloomfield	Poor	Fair	Fair	Good	Good	Very poor.	Very poor.	Poor	Poor	Very poor.
Alvin	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BnuD3:										
Bonnell	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Hickory	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Blocher	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BobE5:										
Bonnell, gullied	Very poor.	Very poor.	Poor	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Hickory, gullied	Very poor.	Very poor.	Poor	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
BodAV:										
Bonnie	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
CldB2:										
Cincinnati	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Blocher	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
ClfA:										
Cobbsfork	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
CmbAW:										
Cohoctah	Poor	Fair	Fair	Good	Good	Good	Good	Good	Good	Good.
CmzA:										
Cliftycreek	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Fair.
CmzB2:										
Cliftycreek	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Fair.
CmzC2:										
Cliftycreek	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Poor.
ColD2:										
Coolville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Rarden	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
ColD2:										
Stonehead	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
ConC3:										
Coolville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Rarden	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
CudA:										
Crosby	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
CulB:										
Crosby	Poor	Very poor.	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Williamstown	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CxdA:										
Cyclone	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Fair	Good.
DbqE:										
Deam, very deep	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
EcyAH:										
Eel	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
EcyAW:										
Eel	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
EdeAW:										
Eel	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
EepAQ:										
Elkinsville	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
FdbA:										
Fincastle	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
FdqB:										
Fincastle	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Fair.
Xenia	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
FexA:										
Fox	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
FexAQ:										
Fox	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
FexB2:										
Fox	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
FgqC3:										
Fox	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Casco	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Fair	Very poor.
GccAH:										
Genesee	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Poor.
GccAW:										
Genesee	Very poor.	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Poor.
GcpAW:										
Genesee	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Poor.
GgbG:										
Gilwood	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Brownstown	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
GgfD2:										
Gilwood	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Wrays	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
HcgAW:										
Haymond	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
HctAW:										
Haymond	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Wirt	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
HeoF:										
Hickory	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
HleAW:										
Holton	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
KugG:										
Kurtz	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Gnawbone	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
LeaA:										
Lauer	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

Table 12.--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
MecAQ:										
Martinsville------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MecB:										
Martinsville------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MfwA:										
Martinsville, sandy substratum-	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MfwAQ:										
Martinsville, sandy substratum-	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MfwB2:										
Martinsville, sandy substratum-	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MfxA:										
Martinsville, sandy substratum-	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MhuA:										
McGary----------	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
MhyB:										
Medora----------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MhyC2:										
Medora----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
MjjAH:										
Medway----------	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
MmoC3:										
Miami----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
MmoD3:										
Miami----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
MnpB2:										
Miami----------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MnpC2:										
Miami----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
MnpD2:										
Miami----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 12.--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
MqbA:										
Milton	Fair	Good	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
MqbB2:										
Milton	Fair	Good	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
MqbC2:										
Milton	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
MrbF:										
Milton	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
NaaB2:										
Nabb	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
NpcA:										
Nineveh	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Fair	Very poor.
NpcAQ:										
Nineveh	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Fair	Very poor.
NpeA:										
Nineveh	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
NpeAQ:										
Nineveh	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
NpeB2:										
Nineveh	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
ObaA:										
Ockley	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
OfaAW:										
Oldenburg	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Omz:										
Orthents, earthen dam.										
PcrB2:										
Pekin	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
PcrC2:										
Pekin	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
PcrC3:										
Pekin	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
PhaA:										
Peoga	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
PlpAV:										
Piopolis	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Pml:										
Pits, quarry.										
PnnD:										
Pike	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Chetwynd	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
PnnF:										
Pike	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Chetwynd	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Ppu:										
Pits, sand and gravel.										
RctD3:										
Rarden	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Coolville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
RehA:										
Rensselaer	Fair	Fair	Fair	Good	Good	Good	Good	Poor	Poor	Good.
Treaty	Fair	Fair	Fair	Good	Good	Good	Good	Poor	Poor	Good.
ReyA:										
Rensselaer	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Fair	Good.
ReyAQ:										
Rensselaer	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Fair	Good.
RqaG:										
Rodman	Very poor.	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Poor	Very poor.
RtxAH:										
Rossburg	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Good	Good	Very poor.
RtxAK:										
Rossburg	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: 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
RywB2:										
Russell	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
SfyA:										
Shircliff	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
SifE:										
Senachwine	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
SifG:										
Senachwine	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
SldAH:										
Shoals	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
SldAW:										
Shoals	Fair	Good	Good	Good	Good	Fair	Fair	Fair	Good	Fair.
SnfA:										
Sleeth	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
SoaB:										
Spickert	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
SocAH:										
Sloan	Poor	Poor	Poor	Good	Good	Good	Good	Fair	Fair	Good.
SocAW:										
Sloan	Poor	Poor	Poor	Good	Good	Good	Good	Fair	Fair	Good.
SoeC2:										
Spickert	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Wrays	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
SolC2:										
Spickert	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Wrays	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
SolC3:										
Spickert	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Wrays	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
StaAV:										
Steff	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
StdAQ:										
Stendal	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
StdAV:										
Stendal	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
StmB:										
Stonehead---------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
SucC2:										
Stonehead---------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Coolville---------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
SujD5:										
Stonehead, gullied	Very poor.	Very poor.	Poor	Good	Good	Very poor.	Very poor.	Very poor.	Fair	Very poor.
SulC2:										
Stonehead---------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Wellrock----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
SuoAH:										
Stonelick---------	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Uaz:										
Udorthents, sandy.										
Uby:										
Udorthents, loamy.										
UemB:										
Urban land.										
Alvin----------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Princeton---------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
UemC:										
Urban land.										
Alvin----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Princeton---------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
UenA:										
Urban land.										
Fox----------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
UenB:										
Urban land.										
Fox----------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
UepC:										
Urban land.										
Fox	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Casco	Fair	Fair	Fair	Good	Good	Very poor.	Very poor.	Fair	Fair	Very poor.
UfcB:										
Urban land.										
Cincinnati	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Nabb	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
UfdA:										
Urban land.										
Cobbsfork	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Avonburg	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
UfnA:										
Urban land.										
Crosby	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
UfoA:										
Urban land.										
Cyclone	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Fair	Good.
UfxA:										
Urban land.										
Fincastle	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
UfyB:										
Urban land.										
Fincastle	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Fair.
Russell	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
UhyA:										
Urban land.										
Martinsville, sandy substratum-	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
UkbC:										
Urban land.										
Miami	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
UkpA:										
Urban land.										
Ockley	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
UkqA:										
Urban land.										
Nineveh	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
UkqB:										
Urban land.										
Nineveh	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
UmqA:										
Urban land.										
Sleeth	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
UnnA:										
Urban land.										
Westland	Fair	Fair	Fair	Good	Good	Good	Good	Poor	Poor	Good.
Usl:										
Udorthents, rubbish.										
W:										
Water.										
WaaAV:										
Wakeland	Fair	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
WaaAW:										
Wakeland	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
WacAW:										
Wakeland	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Birds	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
WbiAW:										
Wilbur	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Wakeland	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
WdlC2:										
Wawaka	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
WdrB2:										
Wawaka	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
WokAW:										
Wilbur	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
WolAV:										
Wilhite	Poor	Fair	Poor	Fair	Fair	Good	Good	Poor	Fair	Good.
WprAV:										
Wirt	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
WprAW:										
Wirt	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
WqlA:										
Westland	Fair	Fair	Fair	Good	Good	Good	Good	Poor	Poor	Good.
WqlAQ:										
Westland	Fair	Fair	Fair	Good	Good	Good	Good	Poor	Poor	Good.
WsuA:										
Whitaker	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
WsyAQ:										
Whitaker	Fair	Good	Good	Good	Good	Fair	Fair	Fair	Good	Fair.
WufB2:										
Williamstown	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
XabB2:										
Xenia	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
XfuB2:										
Miami	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Rainsville	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
XrbC2:										
Miami	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Rainsville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
XrkD2:										
Miami	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Kendallville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
ZboA:										
Zipp	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.

Table 13a.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AddA:						
Avonburg	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
AddB2:						
Avonburg	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
AfsB:						
Alvin	Not limited		Not limited		Somewhat limited:	
					Slope	0.01
Princeton	Not limited		Not limited		Somewhat limited:	
					Slope	0.01
AfsC2:						
Alvin	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.04	Slope	0.04	Slope	1.00
Princeton	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.04	Slope	0.04	Slope	1.00
AmkA:						
Ayrshire	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BbhA:						
Bartle	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BbiB:						
Bartle	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Pekin	Somewhat limited:		Very limited:		Somewhat limited:	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
					Slope	0.01
BcrAW:						
Beanblossom	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.87		

Table 13a.--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
BdhAH:						
Bellcreek----------	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
BfbAH:						
Bellcreek----------	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
BgeAW:						
Birds----------	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BlgC2:						
Blocher----------	Somewhat limited:		Very limited:		Very limited:	
	Slope	0.04	Depth to saturated zone	1.00	Slope	1.00
			Shrink-swell	0.50		
			Slope	0.04		
Cincinnati----------	Somewhat limited:		Very limited:		Very limited:	
	Depth to saturated zone	0.39	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.39
BlgC3:						
Blocher----------	Somewhat limited:		Very limited:		Very limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04			Shrink-swell	0.50
			Shrink-swell	0.50		
			Slope	0.04		
Cincinnati----------	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	0.04	Shrink-swell	0.50	Slope	1.00
			Slope	0.04		
BlhD2:						
Blocher----------	Somewhat limited:		Very limited:		Very limited:	
	Slope	0.96	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
			Slope	0.96		
			Shrink-swell	0.50		
Bonnell----------	Very limited:		Very limited:		Very limited:	
	Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Shrink-swell	1.00

Table 13a.--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
BluC:						
Bloomfield----------	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.16	Slope	0.16	Slope	1.00
Alvin----------	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.16	Slope	0.16	Slope	1.00
BnuD3:						
Bonnell----------	Very limited:		Very limited:		Very limited:	
	Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Shrink-swell	1.00
Hickory----------	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
Blocher----------	Somewhat limited:		Very limited:		Very limited:	
	Slope	0.96	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50	Slope	0.96	Shrink-swell	0.50
			Shrink-swell	0.50		
BobE5:						
Bonnell, gullied----	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00
Hickory, gullied----	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
BodAV:						
Bonnie----------	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
CldB2:						
Cincinnati----------	Somewhat limited:		Very limited:		Somewhat limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
					Slope	0.01
Blocher----------	Not limited		Very limited:		Somewhat limited:	
			Depth to saturated zone	1.00	Slope	0.01
			Shrink-swell	0.50		
ClfA:						
Cobbsfork----------	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
	Shrink-swell	0.50			Shrink-swell	0.50
CmbAW:						
Cohoctah----------	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 13a.--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
CmzA:						
Cliftycreek---------	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
CmzB2:						
Cliftycreek---------	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.01
CmzC2:						
Cliftycreek---------	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
ColD2:						
Coolville----------	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
					Depth to saturated zone	1.00
	Slope	1.00	Slope	1.00		
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Rarden----------	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
					Depth to saturated zone	1.00
	Slope	1.00	Slope	1.00		
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.03		
Stonehead----------	Somewhat limited:		Very limited:		Very limited:	
	Slope	0.84	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
			Slope	0.84		
			Shrink-swell	0.50		
ConC3:						
Coolville----------	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	Slope	1.00
	Slope	0.04	Slope	0.04	Shrink-swell	0.50
Rarden----------	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	Slope	1.00
	Slope	0.04	Slope	0.04	Shrink-swell	0.50
			Depth to soft bedrock	0.03		
CudA:						
Crosby----------	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
CulB:						
Crosby----------	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

Table 13a.--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
CulB:						
Williamstown	Somewhat limited:		Very limited:		Somewhat limited:	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50			Shrink-swell	0.50
CxdA:						
Cyclone	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
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
DbqE:						
Deam, very deep	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
EcyAH:						
Eel	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
EcyAW:						
Eel	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
EdeAW:						
Eel	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
EepAQ:						
Elkinsville	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
FdbA:						
Fincastle	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
FdqB:						
Fincastle	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
Xenia	Somewhat limited:		Very limited:		Somewhat limited:	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
FexA:						
Fox	Somewhat limited:		Not limited		Somewhat limited:	
	Shrink-swell	0.50			Shrink-swell	0.50

Table 13a.--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
FexAQ:						
Fox	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
FexB2:						
Fox	Somewhat limited:		Not limited		Somewhat limited:	
	Shrink-swell	0.50			Shrink-swell	0.50
					Slope	0.01
FgqC3:						
Fox	Somewhat limited:		Somewhat limited:		Very limited:	
	Shrink-swell	0.50	Slope	0.04	Slope	1.00
	Slope	0.04			Shrink-swell	0.50
Casco	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.04	Slope	0.04	Slope	1.00
GccAH:						
Genesee	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
GccAW:						
Genesee	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
GcpAW:						
Genesee	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
GgbG:						
Gilwood	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to hard bedrock	0.29	Depth to hard bedrock	1.00	Depth to hard bedrock	0.29
Brownstown	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Content of large stones	0.18	Depth to hard bedrock	1.00	Content of large stones	0.18
	Depth to hard bedrock	0.06	Content of large stones	0.18	Depth to hard bedrock	0.06
GgfD2:						
Gilwood	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
	Depth to hard bedrock	0.29	Slope	1.00	Depth to hard bedrock	0.29
Wrays	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50	Depth to hard bedrock	0.88	Shrink-swell	0.50
			Shrink-swell	0.50		
HcgAW:						
Haymond	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00

Table 13a.--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
HctAW:						
Haymond	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
Wirt	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
HeoF:						
Hickory	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
HleAW:						
Holton	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
KugG:						
Kurtz	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
Gnawbone	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
			Depth to soft bedrock	0.01		
LeaA:						
Lauer	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
MecAQ:						
Martinsville	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
MecB:						
Martinsville	Not limited		Not limited		Somewhat limited:	
					Slope	0.01
MfwA:						
Martinsville, sandy substratum	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
MfwAQ:						
Martinsville, sandy substratum	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
MfwB2:						
Martinsville, sandy substratum	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.01

Table 13a.--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
MfxA:						
Martinsville, sandy substratum	Not limited		Not limited		Not limited	
MhuA:						
McGary	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
MhyB:						
Medora	Somewhat limited:		Very limited:		Somewhat limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
					Slope	0.01
MhyC2:						
Medora	Somewhat limited:		Very limited:		Very limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04	Shrink-swell	0.50	Shrink-swell	0.50
			Slope	0.04		
MjjAH:						
Medway	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.77	Depth to saturated zone	1.00	Depth to saturated zone	0.77
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
MmoC3:						
Miami	Somewhat limited:		Very limited:		Very limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Shrink-swell	0.50
MmoD3:						
Miami	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
MnpB2:						
Miami	Somewhat limited:		Very limited:		Somewhat limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
					Slope	0.01
MnpC2:						
Miami	Somewhat limited:		Very limited:		Very limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Shrink-swell	0.50
MnpD2:						
Miami	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50

Table 13a.--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
MqbA:						
Milton	Somewhat limited:		Very limited:		Somewhat limited:	
	Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
	Depth to hard bedrock	0.35	Shrink-swell	0.50	Depth to hard bedrock	0.35
MqbB2:						
Milton	Somewhat limited:		Very limited:		Somewhat limited:	
	Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
	Depth to hard bedrock	0.35	Shrink-swell	0.50	Depth to hard bedrock	0.35
					Slope	0.01
MqbC2:						
Milton	Somewhat limited:		Very limited:		Very limited:	
	Shrink-swell	0.50	Depth to hard bedrock	1.00	Slope	1.00
	Depth to hard bedrock	0.35	Shrink-swell	0.50	Shrink-swell	0.50
	Slope	0.04	Slope	0.04	Depth to hard bedrock	0.35
MrbF:						
Milton	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to hard bedrock	0.84	Depth to hard bedrock	1.00	Depth to hard bedrock	0.84
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Rock outcrop	Not rated		Not rated		Not rated	
NaaB2:						
Nabb	Somewhat limited:		Very limited:		Somewhat limited:	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50			Shrink-swell	0.50
					Slope	0.01
NpcA:						
Nineveh	Not limited		Not limited		Not limited	
NpcAQ:						
Nineveh	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
NpeA:						
Nineveh	Somewhat limited:		Not limited		Somewhat limited:	
	Shrink-swell	0.50			Shrink-swell	0.50
NpeAQ:						
Nineveh	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
NpeB2:						
Nineveh	Somewhat limited:		Not limited		Somewhat limited:	
	Shrink-swell	0.50			Shrink-swell	0.50
					Slope	0.01
ObaA:						
Ockley	Somewhat limited:		Not limited		Somewhat limited:	
	Shrink-swell	0.50			Shrink-swell	0.50

Table 13a.--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
OfaAW:						
Oldenburg	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Omz:						
Orthents, earthen dam	Not rated		Not rated		Not rated	
PcrB2:						
Pekin	Somewhat limited:		Very limited:		Somewhat limited:	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
					Slope	0.01
PcrC2:						
Pekin	Somewhat limited:		Very limited:		Very limited:	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.98
PcrC3:						
Pekin	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	0.04	Slope	0.04	Slope	1.00
PhaA:						
Peoga	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
PlpAV:						
Piopolis	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Pml:						
Pits, quarry	Not rated		Not rated		Not rated	
PnnD:						
Pike	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
Chetwynd	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
PnnF:						
Pike	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

Table 13a.--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
PnnF:						
Chetwynd	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
Ppu:						
Pits, sand and gravel	Not rated		Not rated		Not rated	
RctD3:						
Rarden	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to soft bedrock	0.29		
Coolville	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
RehA:						
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
	Shrink-swell	0.06	Shrink-swell	0.06	Shrink-swell	0.06
Treaty	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
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
ReyA:						
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
	Shrink-swell	0.06			Shrink-swell	0.06
ReyAQ:						
Rensselaer	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.06			Shrink-swell	0.06
RqaG:						
Rodman	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
RtxAH:						
Rossburg	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00

Table 13a.--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
RtxAK:						
Rossburg	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
RywB2:						
Russell	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.24		
SfyA:						
Shircliff	Very limited:		Very limited:		Very limited:	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.98	Shrink-swell	0.50	Depth to saturated zone	0.98
SifE:						
Senachwine	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
SifG:						
Senachwine	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
SldAH:						
Shoals	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
SldAW:						
Shoals	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
SnfA:						
Sleeth	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
SoaB:						
Spickert	Somewhat limited:		Very limited:		Somewhat limited:	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.01
SocAH:						
Sloan	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 13a.--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
SocAW:						
Sloan	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
SoeC2:						
Spickert	Somewhat limited:		Very limited:		Very limited:	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Depth to saturated zone	0.98
	Slope	0.04	Slope	0.04	Shrink-swell	0.50
Wrays	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50	Depth to hard bedrock	0.88	Shrink-swell	0.50
			Shrink-swell	0.50		
SolC2:						
Spickert	Somewhat limited:		Very limited:		Very limited:	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Depth to saturated zone	0.98
	Slope	0.04	Slope	0.04	Shrink-swell	0.50
Wrays	Somewhat limited:		Somewhat limited:		Very limited:	
	Shrink-swell	0.50	Depth to hard bedrock	0.88	Slope	1.00
	Slope	0.04	Shrink-swell	0.50	Shrink-swell	0.50
			Slope	0.04		
SolC3:						
Spickert	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	0.04	Slope	0.04	Slope	1.00
Wrays	Somewhat limited:		Somewhat limited:		Very limited:	
	Shrink-swell	0.50	Depth to hard bedrock	0.99	Slope	1.00
	Slope	0.04	Shrink-swell	0.50	Shrink-swell	0.50
			Slope	0.04		
StaAV:						
Steff	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
StdAQ:						
Stendal	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

Table 13a.--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
StdAV:						
Stendal	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
StmB:						
Stonehead	Somewhat limited:		Very limited:		Somewhat limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
			Shrink-swell	0.50	Slope	0.01
SucC2:						
Stonehead	Somewhat limited:		Very limited:		Very limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04	Shrink-swell	0.50	Shrink-swell	0.50
			Slope	0.04		
Coolville	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	Slope	1.00
	Slope	0.04	Slope	0.04	Shrink-swell	0.50
SujD5:						
Stonehead, gullied	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
SulC2:						
Stonehead	Somewhat limited:		Very limited:		Very limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.16	Shrink-swell	0.50	Shrink-swell	0.50
			Slope	0.16		
Wellrock	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.84	Slope	0.84	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
SuoAH:						
Stonelick	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
Uaz:						
Udorthents, sandy	Not rated		Not rated		Not rated	
Uby:						
Udorthents, loamy	Not rated		Not rated		Not rated	
UemB:						
Urban land	Not rated		Not rated		Not rated	
Alvin	Not limited		Not limited		Somewhat limited:	
					Slope	0.01
Princeton	Not limited		Not limited		Somewhat limited:	
					Slope	0.01

Table 13a.--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
UemC:						
Urban land----------	Not rated		Not rated		Not rated	
Alvin----------	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.04	Slope	0.04	Slope	1.00
Princeton----------	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.04	Slope	0.04	Slope	1.00
UenA:						
Urban land----------	Not rated		Not rated		Not rated	
Fox----------	Somewhat limited:		Not limited		Somewhat limited:	
	Shrink-swell	0.50			Shrink-swell	0.50
UenB:						
Urban land----------	Not rated		Not rated		Not rated	
Fox----------	Somewhat limited:		Not limited		Somewhat limited:	
	Shrink-swell	0.50			Shrink-swell	0.50
					Slope	0.01
UepC:						
Urban land----------	Not rated		Not rated		Not rated	
Fox----------	Somewhat limited:		Somewhat limited:		Very limited:	
	Shrink-swell	0.50	Slope	0.04	Slope	1.00
	Slope	0.04			Shrink-swell	0.50
Casco----------	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.04	Slope	0.04	Slope	1.00
UfcB:						
Urban land----------	Not rated		Not rated		Not rated	
Cincinnati----------	Somewhat limited:		Very limited:		Very limited:	
	Slope	0.04	Depth to saturated zone	1.00	Slope	1.00
			Slope	0.04		
Nabb----------	Somewhat limited:		Very limited:		Somewhat limited:	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50			Shrink-swell	0.50
					Slope	0.01
UfdA:						
Urban land----------	Not rated		Not rated		Not rated	
Cobbsfork----------	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
	Shrink-swell	0.50			Shrink-swell	0.50
Avonburg----------	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

Table 13a.--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
UfnA:						
Urban land----------	Not rated		Not rated		Not rated	
Crosby----------	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
UfoA:						
Urban land----------	Not rated		Not rated		Not rated	
Cyclone----------	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
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
UfxA:						
Urban land----------	Not rated		Not rated		Not rated	
Fincastle----------	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
UfyB:						
Urban land----------	Not rated		Not rated		Not rated	
Fincastle----------	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
Russell----------	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.24	Slope	0.01
UhyA:						
Urban land----------	Not rated		Not rated		Not rated	
Martinsville, sandy substratum---------	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
UkbC:						
Urban land----------	Not rated		Not rated		Not rated	
Miami----------	Somewhat limited:		Very limited:		Very limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Shrink-swell	0.50
UkpA:						
Urban land----------	Not rated		Not rated		Not rated	
Ockley----------	Somewhat limited:		Not limited		Somewhat limited:	
	Shrink-swell	0.50			Shrink-swell	0.50
UkqA:						
Urban land----------	Not rated		Not rated		Not rated	

Table 13a.--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
UkqA:						
Nineveh	Somewhat limited:		Not limited		Somewhat limited:	
	Shrink-swell	0.50			Shrink-swell	0.50
UkqB:						
Urban land	Not rated		Not rated		Not rated	
Nineveh	Somewhat limited:		Not limited		Somewhat limited:	
	Shrink-swell	0.50			Shrink-swell	0.50
					Slope	0.01
UmqA:						
Urban land	Not rated		Not rated		Not rated	
Sleeth	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
UnnA:						
Urban land	Not rated		Not rated		Not rated	
Westland	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
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Usl:						
Udorthents, rubbish-	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	
WaaAV:						
Wakeland	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
WaaAW:						
Wakeland	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
WacAW:						
Wakeland	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
Birds	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 13a.--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
WbiAW:						
Wilbur	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Wakeland	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
WdlC2:						
Wawaka	Somewhat limited:		Somewhat limited:		Very limited:	
	Shrink-swell	0.50	Slope	0.04	Slope	1.00
	Slope	0.04			Shrink-swell	0.50
WdrB2:						
Wawaka	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.01
WokAW:						
Wilbur	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
WolAV:						
Wilhite	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
WprAV:						
Wirt	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
WprAW:						
Wirt	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
WqlA:						
Westland	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
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
WqlAQ:						
Westland	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 13a.--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
WsuA:						
Whitaker	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
WsyAQ:						
Whitaker	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
WufB2:						
Williamstown	Somewhat limited:		Very limited:		Somewhat limited:	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50			Shrink-swell	0.50
					Slope	0.01
XabB2:						
Xenia	Somewhat limited:		Very limited:		Somewhat limited:	
	Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.01
XfuB2:						
Miami	Somewhat limited:		Very limited:		Somewhat limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
					Slope	0.01
Rainsville	Somewhat limited:		Very limited:		Somewhat limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
					Slope	0.01
			Shrink-swell	0.50		
XrbC2:						
Miami	Somewhat limited:		Very limited:		Very limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04			Shrink-swell	0.50
			Slope	0.04		
Rainsville	Somewhat limited:		Very limited:		Very limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04			Shrink-swell	0.50
			Shrink-swell	0.50		
			Slope	0.04		
XrkD2:						
Miami	Somewhat limited:		Very limited:		Very limited:	
	Slope	0.96	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
			Slope	0.96		
Kendallville	Somewhat limited:		Somewhat limited:		Very limited:	
	Slope	0.96	Slope	0.96	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50

Table 13a.--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
ZboA:						
Zipp	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
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 13b.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AddA:						
Avonburg	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	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
AddB2:						
Avonburg	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	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
AfsB:						
Alvin	Somewhat limited:		Very limited:		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
Princeton	Somewhat limited:		Very limited:		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
AfsC2:						
Alvin	Somewhat limited:		Very limited:		Somewhat limited:	
	Frost action	0.50	Cutbanks cave	1.00	Slope	0.04
	Slope	0.04	Slope	0.04		
Princeton	Somewhat limited:		Very limited:		Somewhat limited:	
	Frost action	0.50	Cutbanks cave	1.00	Slope	0.04
	Slope	0.04	Slope	0.04		
AmkA:						
Ayrshire	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	Cutbanks cave	1.00		
BbhA:						
Bartle	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	Cutbanks cave	0.10		
	Low strength	1.00				
BbiB:						
Bartle	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	Cutbanks cave	0.10		
	Low strength	1.00				

Table 13b.--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
BbiB:						
Pekin	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
BcrAW:						
Beanblossom	Very limited:		Somewhat limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	0.87	Flooding	0.60
	Flooding	1.00	Flooding	0.60		
			Cutbanks cave	0.10		
BdhAH:						
Bellcreek	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80		
	Shrink-swell	1.00	Too clayey	0.03		
BfbAH:						
Bellcreek	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80		
	Shrink-swell	1.00	Too clayey	0.03		
BgeAW:						
Birds	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Flooding	0.60	Flooding	0.60
	Flooding	1.00	Cutbanks cave	0.10		
BlgC2:						
Blocher	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	0.04
	Low strength	1.00	Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		
Cincinnati	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Low strength	1.00	Cutbanks cave	0.10	Slope	0.04
	Depth to saturated zone	0.19	Slope	0.04		
	Slope	0.04				
BlgC3:						
Blocher	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	0.04
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50	Slope	0.04		
	Slope	0.04				

Table 13b.--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
BlgC3:						
Cincinnati----------	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96
	Low strength	1.00	Cutbanks cave	0.10	Slope	0.04
	Depth to saturated zone	0.96	Slope	0.04		
	Slope	0.04				
BlhD2:						
Blocher----------	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	0.96
	Low strength	1.00	Slope	0.96		
	Slope	0.96	Cutbanks cave	0.10		
	Shrink-swell	0.50				
Bonnell----------	Very limited:		Very limited:		Very limited:	
	Frost action	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00	Too clayey	0.02		
	Slope	1.00				
BluC:						
Bloomfield----------	Somewhat limited:		Very limited:		Somewhat limited:	
	Slope	0.16	Cutbanks cave	1.00	Slope	0.16
			Slope	0.16	Droughty	0.01
Alvin----------	Somewhat limited:		Very limited:		Somewhat limited:	
	Frost action	0.50	Cutbanks cave	1.00	Slope	0.16
	Slope	0.16	Slope	0.16		
BnuD3:						
Bonnell----------	Very limited:		Very limited:		Very limited:	
	Low strength	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	1.00	Cutbanks cave	0.10		
	Slope	1.00	Too clayey	0.01		
	Frost action	0.50				
Hickory----------	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
Blocher----------	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	0.96
	Low strength	1.00	Slope	0.96		
	Slope	0.96	Cutbanks cave	0.10		
	Shrink-swell	0.50				
BobE5:						
Bonnell, gullied----	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00	Too clayey	0.01		
	Frost action	0.50				
Hickory, gullied----	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				

Table 13b.--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
BodAV:						
Bonnie----------	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
CldB2:						
Cincinnati----------	Very limited:		Somewhat limited:		Not limited	
	Frost action	1.00	Depth to saturated zone	1.00		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
Blocher----------	Very limited:		Very limited:		Not limited	
	Frost action	1.00	Depth to saturated zone	1.00		
	Low strength	1.00	Cutbanks cave	0.10		
ClfA:						
Cobbsfork----------	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
CmbAW:						
Cohoctah----------	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	1.00	Flooding	0.60
	Flooding	1.00	Flooding	0.60		
CmzA:						
Cliftycreek---------	Very limited:		Somewhat limited:		Not limited	
	Low strength	1.00	Too clayey	0.12		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
CmzB2:						
Cliftycreek---------	Very limited:		Somewhat limited:		Not limited	
	Low strength	1.00	Too clayey	0.12		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
CmzC2:						
Cliftycreek---------	Very limited:		Somewhat limited:		Somewhat limited:	
	Low strength	1.00	Too clayey	0.12	Slope	0.04
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50	Slope	0.04		
	Slope	0.04				

Table 13b.--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
ColD2:						
Coolville	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	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Slope	1.00	Too clayey	0.02		
	Shrink-swell	0.50				
Rarden	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	Slope	1.00	Slope	1.00
	Low strength	1.00	Too clayey	0.18	Depth to bedrock	0.03
	Slope	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50	Depth to soft bedrock	0.03		
Stonehead	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	0.84
	Low strength	1.00	Slope	0.84		
	Slope	0.84	Too clayey	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
ConC3:						
Coolville	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	Cutbanks cave	0.10	Slope	0.04
	Low strength	1.00	Slope	0.04		
	Shrink-swell	0.50	Too clayey	0.02		
	Slope	0.04				
Rarden	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	Too clayey	0.18	Slope	0.04
	Low strength	1.00	Cutbanks cave	0.10	Depth to bedrock	0.03
	Shrink-swell	0.50	Slope	0.04		
	Slope	0.04	Depth to soft bedrock	0.03		
CudA:						
Crosby	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	Depth to dense layer	0.50		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
CulB:						
Crosby	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	Depth to dense layer	0.50		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				

Table 13b.--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
CulB:						
Williamstown--------	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	Depth to dense layer	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
CxdA:						
Cyclone----------	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
DbqE:						
Deam, very deep-----	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
EcyAH:						
Eel----------	Very limited:		Very limited:		Very limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Cutbanks cave	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Flooding	0.80		
	Depth to saturated zone	0.75				
EcyAW:						
Eel----------	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
	Low strength	1.00	Flooding	0.60		
	Depth to saturated zone	0.75				
EdeAW:						
Eel----------	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
	Low strength	1.00	Flooding	0.60		
	Depth to saturated zone	0.75				
EepAQ:						
Elkinsville---------	Very limited:		Somewhat limited:		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Flooding	0.40				
FdbA:						
Fincastle----------	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	Depth to dense layer	0.50		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				

Table 13b.--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
FdqB:						
Fincastle	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	Depth to dense layer	0.50		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
Xenia	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Depth to dense layer	0.50		
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
	Shrink-swell	0.50				
FexA:						
Fox	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
FexAQ:						
Fox	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
	Flooding	0.40				
FexB2:						
Fox	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
FgqC3:						
Fox	Somewhat limited:		Very limited:		Somewhat limited:	
	Shrink-swell	0.50	Cutbanks cave	1.00	Slope	0.04
	Slope	0.04	Slope	0.04		
Casco	Somewhat limited:		Very limited:		Somewhat limited:	
	Slope	0.04	Cutbanks cave	1.00	Slope	0.04
			Slope	0.04	Droughty	0.01
GccAH:						
Genesee	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
	Frost action	0.50	Flooding	0.80		
GccAW:						
Genesee	Very limited:		Very limited:		Somewhat limited:	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
	Frost action	0.50	Flooding	0.60		
GcpAW:						
Genesee	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Cutbanks cave	1.00	Flooding	0.60
	Flooding	1.00	Flooding	0.60		
GgbG:						
Gilwood	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
	Frost action	0.50	Slope	1.00	Depth to bedrock	0.29
	Depth to hard bedrock	0.29	Cutbanks cave	0.10		

Table 13b.--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
GgbG:						
Brownstown	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
	Frost action	0.50	Slope	1.00	Depth to bedrock	0.06
	Content of large stones	0.18	Content of large stones	0.18	Droughty	0.01
	Depth to hard bedrock	0.06	Cutbanks cave	0.10		
GgfD2:						
Gilwood	Very limited:		Very limited:		Very limited:	
	Frost action	1.00	Depth to hard bedrock	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Depth to bedrock	0.29
	Depth to hard bedrock	0.29	Cutbanks cave	0.10		
Wrays	Very limited:		Somewhat limited:		Somewhat limited:	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Depth to hard bedrock	0.88		
	Slope	0.96	Cutbanks cave	0.10		
	Shrink-swell	0.50				
HcgAW:						
Haymond	Very limited:		Somewhat limited:		Somewhat limited:	
	Frost action	1.00	Flooding	0.60	Flooding	0.60
	Flooding	1.00	Cutbanks cave	0.10		
HctAW:						
Haymond	Very limited:		Somewhat limited:		Somewhat limited:	
	Frost action	1.00	Flooding	0.60	Flooding	0.60
	Flooding	1.00	Cutbanks cave	0.10		
Wirt	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Cutbanks cave	1.00	Flooding	0.60
	Flooding	1.00	Flooding	0.60		
HeoF:						
Hickory	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
HleAW:						
Holton	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	Cutbanks cave	1.00	Flooding	0.60
	Flooding	1.00	Flooding	0.60		
KugG:						
Kurtz	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 13b.--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
KugG:						
Gnawbone	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10	Depth to bedrock	0.01
	Frost action	0.50	Depth to soft bedrock	0.01		
LeaA:						
Lauer	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	Cutbanks cave	0.10		
	Low strength	1.00	Too clayey	0.04		
	Shrink-swell	0.50				
MecAQ:						
Martinsville	Somewhat limited:		Somewhat limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
	Flooding	0.40				
	Low strength	0.22				
MecB:						
Martinsville	Somewhat limited:		Somewhat limited:		Not limited	
	Frost action	0.50	Cutbanks cave	0.10		
MfwA:						
Martinsville, sandy substratum	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
MfwAQ:						
Martinsville, sandy substratum	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
	Flooding	0.40				
MfwB2:						
Martinsville, sandy substratum	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
MfxA:						
Martinsville, sandy substratum	Somewhat limited:		Very limited:		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
MhuA:						
McGary	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	Too clayey	0.12		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				

Table 13b.--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
MhyB:						
Medora	Very limited:		Very limited:		Not limited	
	Frost action	1.00	Depth to saturated zone	1.00		
	Low strength	1.00				
	Shrink-swell	0.50	Cutbanks cave	0.10		
MhyC2:						
Medora	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	0.04
	Low strength	1.00				
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		
MjjAH:						
Medway	Very limited:		Very limited:		Very limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00			Depth to saturated zone	0.43
	Low strength	0.78	Flooding	0.80		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Depth to saturated zone	0.43				
MmoC3:						
Miami	Very limited:		Very limited:		Somewhat limited:	
	Low strength	1.00	Depth to saturated zone	1.00	Slope	0.04
	Shrink-swell	0.50				
	Frost action	0.50	Depth to dense layer	0.50		
	Slope	0.04				
			Cutbanks cave	0.10		
			Slope	0.04		
MmoD3:						
Miami	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to saturated zone	1.00		
	Shrink-swell	0.50				
	Frost action	0.50	Depth to dense layer	0.50		
			Cutbanks cave	0.10		
MnpB2:						
Miami	Very limited:		Very limited:		Not limited	
	Low strength	1.00	Depth to saturated zone	1.00		
	Shrink-swell	0.50				
	Frost action	0.50	Depth to dense layer	0.50		
			Cutbanks cave	0.10		
MnpC2:						
Miami	Very limited:		Very limited:		Somewhat limited:	
	Low strength	1.00	Depth to saturated zone	1.00	Slope	0.04
	Shrink-swell	0.50				
	Frost action	0.50	Depth to dense layer	0.50		
	Slope	0.04				
			Cutbanks cave	0.10		
			Slope	0.04		

Table 13b.--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
MnpD2:						
Miami	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to saturated zone	1.00		
	Shrink-swell	0.50	Depth to dense layer	0.50		
	Frost action	0.50	Cutbanks cave	0.10		
MqbA:						
Milton	Very limited:		Very limited:		Somewhat limited:	
	Low strength	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.35
	Shrink-swell	0.50	Too clayey	0.12		
	Frost action	0.50	Cutbanks cave	0.10		
	Depth to hard bedrock	0.35				
MqbB2:						
Milton	Very limited:		Very limited:		Somewhat limited:	
	Low strength	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.35
	Shrink-swell	0.50	Too clayey	0.12		
	Frost action	0.50	Cutbanks cave	0.10		
	Depth to hard bedrock	0.35				
MqbC2:						
Milton	Very limited:		Very limited:		Somewhat limited:	
	Low strength	1.00	Depth to hard bedrock	1.00	Depth to bedrock	0.35
	Shrink-swell	0.50	Too clayey	0.12	Slope	0.04
	Frost action	0.50	Cutbanks cave	0.10		
	Depth to hard bedrock	0.35	Slope	0.04		
	Slope	0.04				
MrbF:						
Milton	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Depth to hard bedrock	1.00	Slope	1.00
	Low strength	1.00	Slope	1.00	Depth to bedrock	0.84
	Depth to hard bedrock	0.84	Cutbanks cave	0.10	Content of large stones	0.01
	Shrink-swell	0.50	Too clayey	0.02		
	Frost action	0.50				
Rock outcrop	Not rated		Not rated		Not rated	
NaaB2:						
Nabb	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
NpcA:						
Nineveh	Somewhat limited:		Very limited:		Somewhat limited:	
	Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.32
					Droughty	0.02

Table 13b.--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
NpcAQ:						
Nineveh	Somewhat limited:		Very limited:		Somewhat limited:	
	Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.32
	Flooding	0.40			Droughty	0.02
NpeA:						
Nineveh	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
	Low strength	0.22				
NpeAQ:						
Nineveh	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
	Flooding	0.40				
	Low strength	0.22				
NpeB2:						
Nineveh	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
	Low strength	0.22				
ObaA:						
Ockley	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
	Low strength	0.22				
OfaAW:						
Oldenburg	Very limited:		Very limited:		Somewhat limited:	
	Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.75	Cutbanks cave	1.00	Flooding	0.60
	Frost action	0.50	Flooding	0.60		
Omz:						
Orthents, earthen dam	Not rated		Not rated		Not rated	
PcrB2:						
Pekin	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
PcrC2:						
Pekin	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10	Slope	0.04
	Depth to saturated zone	0.75	Slope	0.04		
	Slope	0.04				

Table 13b.--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
PcrC3:						
Pekin	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	Cutbanks cave	0.10	Slope	0.04
	Low strength	1.00	Slope	0.04		
	Slope	0.04				
PhaA:						
Peoga	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
PlpAV:						
Piopolis	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
Pml:						
Pits, quarry	Not rated		Not rated		Not rated	
PnnD:						
Pike	Very limited:		Very limited:		Very limited:	
	Frost action	1.00	Slope	1.00	Slope	1.00
	Slope	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
Chetwynd	Very limited:		Very limited:		Very limited:	
	Frost action	1.00	Cutbanks cave	1.00	Slope	1.00
	Slope	1.00	Slope	1.00		
	Shrink-swell	0.50				
PnnF:						
Pike	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
Chetwynd	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	1.00		
	Shrink-swell	0.50				
Ppu:						
Pits, sand and gravel	Not rated		Not rated		Not rated	

Table 13b.--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
RctD3:						
Rarden	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	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to soft bedrock	0.29	Depth to bedrock	0.29
	Slope	1.00	Too clayey	0.18		
	Shrink-swell	0.50	Cutbanks cave	0.10		
Coolville	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	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Slope	1.00	Too clayey	0.02		
	Shrink-swell	0.50				
RehA:						
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
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.06				
Treaty	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
ReyA:						
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
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.06				
ReyAQ:						
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
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Flooding	0.40				
RqaG:						
Rodman	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
			Cutbanks cave	1.00	Droughty	0.65
			Depth to dense layer	0.50		

Table 13b.--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
RtxAH:						
Rossburg	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
	Low strength	1.00	Flooding	0.80		
	Frost action	0.50				
RtxAK:						
Rossburg	Very limited:		Very limited:		Somewhat limited:	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
	Low strength	1.00	Flooding	0.60		
	Frost action	0.50				
RywB2:						
Russell	Very limited:		Somewhat limited:		Not limited	
	Frost action	1.00	Depth to dense	0.50		
	Low strength	1.00	layer			
	Shrink-swell	0.50	Depth to	0.24		
			saturated zone			
			Cutbanks cave	0.10		
SfyA:						
Shircliff	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Shrink-swell	1.00	Too clayey	0.12		
	Depth to	0.75	Cutbanks cave	0.10		
	saturated zone					
SifE:						
Senachwine	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	0.78	Cutbanks cave	0.10		
	Frost action	0.50				
SifG:						
Senachwine	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	0.78	Cutbanks cave	0.10		
	Frost action	0.50				
SldAH:						
Shoals	Very limited:		Very limited:		Very limited:	
	Depth to	1.00	Depth to	1.00	Flooding	1.00
	saturated zone		saturated zone		Depth to	1.00
	Frost action	1.00	Flooding	0.80	saturated zone	
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	0.78				
SldAW:						
Shoals	Very limited:		Very limited:		Very limited:	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Frost action	1.00	Flooding	0.60	Flooding	0.60
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	0.78				

Table 13b.--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
SnfA:						
Sleeth	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	Cutbanks cave	1.00		
	Low strength	0.78				
	Shrink-swell	0.50				
SoaB:						
Spickert	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
SocAH:						
Sloan	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
SocAW:						
Sloan	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Flooding	0.60	Flooding	0.60
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
SoeC2:						
Spickert	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10	Slope	0.04
	Depth to saturated zone	0.75	Slope	0.04		
	Shrink-swell	0.50				
	Slope	0.04				
Wrays	Very limited:		Somewhat limited:		Somewhat limited:	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Depth to hard bedrock	0.88		
	Slope	0.96	Cutbanks cave	0.10		
	Shrink-swell	0.50				
SolC2:						
Spickert	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10	Slope	0.04
	Depth to saturated zone	0.75	Slope	0.04		
	Shrink-swell	0.50				
	Slope	0.04				

Table 13b.--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
SldAW:						
Wrays	Very limited:		Somewhat limited:		Somewhat limited:	
	Frost action	1.00	Depth to hard bedrock	0.88	Slope	0.04
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50	Slope	0.04		
	Slope	0.04				
SolC3:						
Spickert	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	Cutbanks cave	0.10	Slope	0.04
	Low strength	0.22	Slope	0.04		
	Slope	0.04				
Wrays	Very limited:		Somewhat limited:		Somewhat limited:	
	Frost action	1.00	Depth to hard bedrock	0.99	Slope	0.04
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50	Slope	0.04		
	Slope	0.04				
StaAV:						
Steff	Very limited:		Very limited:		Very limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.75
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
StdAQ:						
Stendal	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	Cutbanks cave	0.10		
	Low strength	1.00				
	Flooding	0.40				
StdAV:						
Stendal	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
StmB:						
Stonehead	Very limited:		Very limited:		Not limited	
	Frost action	1.00	Depth to saturated zone	1.00		
	Low strength	1.00	Too clayey	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
SucC2:						
Stonehead	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	0.04
	Low strength	1.00	Too clayey	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		

Table 13b.--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
SucC2:						
Coolville	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	Cutbanks cave	0.10	Slope	0.04
	Low strength	1.00	Slope	0.04		
	Shrink-swell	0.50	Too clayey	0.02		
	Slope	0.04				
SujD5:						
Stonehead, gullied	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	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Slope	1.00	Too clayey	0.02		
	Shrink-swell	0.50				
SulC2:						
Stonehead	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	0.16
	Low strength	1.00	Too clayey	0.50		
	Shrink-swell	0.50	Slope	0.16		
	Slope	0.16	Cutbanks cave	0.10		
Wellrock	Very limited:		Somewhat limited:		Somewhat limited:	
	Frost action	1.00	Slope	0.84	Slope	0.84
	Low strength	1.00	Cutbanks cave	0.10		
	Slope	0.84				
	Shrink-swell	0.50				
SuoAH:						
Stonelick	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
	Frost action	0.50	Flooding	0.80		
Uaz:						
Udorthents, sandy	Not rated		Not rated		Not rated	
Uby:						
Udorthents, loamy	Not rated		Not rated		Not rated	
UemB:						
Urban land	Not rated		Not rated		Not rated	
Alvin	Somewhat limited:		Very limited:		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
Princeton	Somewhat limited:		Very limited:		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
UemC:						
Urban land	Not rated		Not rated		Not rated	
Alvin	Somewhat limited:		Very limited:		Somewhat limited:	
	Frost action	0.50	Cutbanks cave	1.00	Slope	0.04
	Slope	0.04	Slope	0.04		

Table 13b.--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
UemC:						
Princeton	Somewhat limited:		Very limited:		Somewhat limited:	
	Frost action	0.50	Cutbanks cave	1.00	Slope	0.04
	Slope	0.04	Slope	0.04		
UenA:						
Urban land	Not rated		Not rated		Not rated	
Fox	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
UenB:						
Urban land	Not rated		Not rated		Not rated	
Fox	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
UepC:						
Urban land	Not rated		Not rated		Not rated	
Fox	Somewhat limited:		Very limited:		Somewhat limited:	
	Shrink-swell	0.50	Cutbanks cave	1.00	Slope	0.04
	Frost action	0.50	Slope	0.04		
	Slope	0.04				
Casco	Somewhat limited:		Very limited:		Somewhat limited:	
	Slope	0.04	Cutbanks cave	1.00	Slope	0.04
			Slope	0.04	Droughty	0.01
UfcB:						
Urban land	Not rated		Not rated		Not rated	
Cincinnati	Very limited:		Somewhat limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	0.04
	Low strength	1.00	Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		
Nabb	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
UfdA:						
Urban land	Not rated		Not rated		Not rated	
Cobbsfork	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 13b.--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
UfdA:						
Avonburg	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	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
UfnA:						
Urban land	Not rated		Not rated		Not rated	
Crosby	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	Depth to dense layer	0.50		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
UfoA:						
Urban land	Not rated		Not rated		Not rated	
Cyclone	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
UfxA:						
Urban land	Not rated		Not rated		Not rated	
Fincastle	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	Depth to dense layer	0.50		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
UfyB:						
Urban land	Not rated		Not rated		Not rated	
Fincastle	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	Depth to dense layer	0.50		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
Russell	Very limited:		Somewhat limited:		Not limited	
	Frost action	1.00	Depth to dense layer	0.50		
	Low strength	1.00	Depth to saturated zone	0.24		
	Shrink-swell	0.50	Cutbanks cave	0.10		
UhyA:						
Urban land	Not rated		Not rated		Not rated	

Table 13b.--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
UhyA:						
Martinsville, sandy substratum	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
UkbC:						
Urban land	Not rated		Not rated		Not rated	
Miami	Very limited:		Very limited:		Somewhat limited:	
	Low strength	1.00	Depth to saturated zone	1.00	Slope	0.04
	Shrink-swell	0.50	Depth to dense layer	0.50		
	Frost action	0.50	Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		
UkpA:						
Urban land	Not rated		Not rated		Not rated	
Ockley	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
	Low strength	0.22				
UkqA:						
Urban land	Not rated		Not rated		Not rated	
Nineveh	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
	Low strength	0.22				
UkqB:						
Urban land	Not rated		Not rated		Not rated	
Nineveh	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
	Low strength	0.22				
UmqA:						
Urban land	Not rated		Not rated		Not rated	
Sleeth	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	Cutbanks cave	1.00		
	Low strength	0.78				
	Shrink-swell	0.50				
UnnA:						
Urban land	Not rated		Not rated		Not rated	
Westland	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 13b.--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
Usl:						
Udorthents, rubbish-	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	
WaaAV:						
Wakeland	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
WaaAW:						
Wakeland	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	Flooding	0.60	Flooding	0.60
	Flooding	1.00	Cutbanks cave	0.10		
WacAW:						
Wakeland	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	Flooding	0.60	Flooding	0.60
	Flooding	1.00	Cutbanks cave	0.10		
Birds	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Flooding	0.60	Flooding	0.60
	Flooding	1.00	Cutbanks cave	0.10		
WbiAW:						
Wilbur	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
Wakeland	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	Flooding	0.60	Flooding	0.60
	Flooding	1.00	Cutbanks cave	0.10		
WdlC2:						
Wawaka	Very limited:		Somewhat limited:		Somewhat limited:	
	Low strength	1.00	Depth to dense layer	0.50	Slope	0.04
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50	Slope	0.04		
	Slope	0.04				
WdrB2:						
Wawaka	Very limited:		Somewhat limited:		Not limited	
	Frost action	1.00	Depth to dense layer	0.50		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				

Table 13b.--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
WokAW:						
Wilbur	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
WolAV:						
Wilhite	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10	Too clayey	1.00
	Low strength	1.00	Too clayey	0.08		
WprAV:						
Wirt	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
	Frost action	0.50	Flooding	0.80		
WprAW:						
Wirt	Very limited:		Very limited:		Somewhat limited:	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
	Frost action	0.50	Flooding	0.60		
WqlA:						
Westland	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
WqlAQ:						
Westland	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
WsuA:						
Whitaker	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	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
WsyAQ:						
Whitaker	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	Cutbanks cave	1.00		
	Flooding	0.40				

Table 13b.--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
WufB2:						
Williamstown--------	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	Depth to dense layer	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
XabB2:						
Xenia----------	Very limited:		Very limited:		Somewhat limited:	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Depth to dense layer	0.50		
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
	Shrink-swell	0.50				
XfuB2:						
Miami----------	Very limited:		Very limited:		Not limited	
	Low strength	1.00	Depth to saturated zone	1.00		
	Shrink-swell	0.50	Depth to dense layer	0.50		
	Frost action	0.50	Cutbanks cave	0.10		
Rainsville----------	Somewhat limited:		Very limited:		Not limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00		
	Frost action	0.50	Depth to dense layer	0.50		
	Low strength	0.22	Cutbanks cave	0.10		
XrbC2:						
Miami----------	Very limited:		Very limited:		Somewhat limited:	
	Low strength	1.00	Depth to saturated zone	1.00	Slope	0.04
	Shrink-swell	0.50	Depth to dense layer	0.50		
	Frost action	0.50	Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		
Rainsville----------	Somewhat limited:		Very limited:		Somewhat limited:	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	0.04
	Frost action	0.50	Depth to dense layer	0.50		
	Low strength	0.22	Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		
XrkD2:						
Miami----------	Very limited:		Very limited:		Somewhat limited:	
	Low strength	1.00	Depth to saturated zone	1.00	Slope	0.96
	Slope	0.96	Slope	0.96		
	Shrink-swell	0.50	Depth to dense layer	0.50		
	Frost action	0.50	Cutbanks cave	0.10		

Table 13b.--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
XrkD2:						
Kendallville--------	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Slope	0.96	Slope	0.96	Slope	0.96
	Shrink-swell	0.50	Depth to dense layer	0.50		
	Frost action	0.50	Cutbanks cave	0.10		
ZboA:						
Zipp----------	Very limited:		Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00	Too clayey	0.08		
	Shrink-swell	1.00				

Table 14a.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
AddA:				
Avonburg	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00		
AddB2:				
Avonburg	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.10
	Depth to saturated zone	1.00		
AfsB:				
Alvin	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
			Slope	0.35
Princeton	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
			Slope	0.35
	Restricted permeability	0.46		
AfsC2:				
Alvin	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
			Slope	1.00
	Slope	0.04		
Princeton	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
			Slope	1.00
	Restricted permeability	0.46		
	Slope	0.04		
AmkA:				
Ayrshire	Very limited:		Very limited:	
	Depth to saturated zone	1.00	Seepage	1.00
			Depth to saturated zone	1.00
	Filtering capacity	1.00		
	Restricted permeability	0.46		
BbhA:				
Bartle	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00		

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BbiB:				
Bartle	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00	Slope	0.10
Pekin	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00	Slope	0.35
			Depth to saturated zone	0.01
BcrAW:				
Beanblossom	Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Depth to bedrock	0.59	Depth to soft bedrock	0.13
BdhAH:				
Bellcreek	Very limited:		Very limited:	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00		
BfbAH:				
Bellcreek	Very limited:		Very limited:	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00		
BgeAW:				
Birds	Very limited:		Very limited:	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
BlgC2:				
Blocher	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
	Slope	0.04	Seepage	0.53

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BlgC2:				
Cincinnati	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Seepage	0.53
	Slope	0.04	Depth to saturated zone	0.25
BlgC3:				
Blocher	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
	Slope	0.04	Seepage	0.53
Cincinnati	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Seepage	0.53
	Slope	0.04		
BlhD2:				
Blocher	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
	Slope	0.96	Seepage	0.53
Bonnell	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Seepage	0.28
BluC:				
Bloomfield	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Slope	0.16	Slope	1.00
Alvin	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Slope	0.16	Slope	1.00
BnuD3:				
Bonnell	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Seepage	0.28
Hickory	Very limited:		Very limited:	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BnuD3:				
Blocher	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
	Slope	0.96	Seepage	0.53
BobE5:				
Bonnell, gullied	Very limited:		Very limited:	
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00	Seepage	0.28
Hickory, gullied	Very limited:		Very limited:	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
BodAV:				
Bonnie	Very limited:		Very limited:	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
CldB2:				
Cincinnati	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Depth to saturated zone	0.88
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.35
Blocher	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Depth to saturated zone	0.81
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.35
ClfA:				
Cobbsfork	Very limited:		Very limited:	
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00	Seepage	0.53
	Depth to saturated zone	1.00		
CmbAW:				
Cohoctah	Very limited:		Very limited:	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
			Depth to saturated zone	1.00

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
CmzA:				
Cliftycreek	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to bedrock	0.01		
CmzB2:				
Cliftycreek	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.35
	Depth to bedrock	0.01		
CmzC2:				
Cliftycreek	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
			Seepage	0.53
	Slope	0.04		
	Depth to bedrock	0.01		
ColD2:				
Coolville	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
			Depth to soft bedrock	0.84
	Depth to saturated zone	1.00		
			Seepage	0.53
	Slope	1.00		
	Depth to bedrock	0.94		
Rarden	Very limited:		Very limited:	
	Restricted permeability	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	1.00
	Depth to saturated zone	1.00		
	Slope	1.00		
Stonehead	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
			Depth to saturated zone	0.81
	Depth to saturated zone	1.00		
			Seepage	0.53
	Slope	0.84		
	Depth to bedrock	0.09		
ConC3:				
Coolville	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
			Depth to soft bedrock	0.93
	Depth to saturated zone	1.00		
			Seepage	0.53
	Depth to bedrock	0.98		
	Slope	0.04		
Rarden	Very limited:		Very limited:	
	Restricted permeability	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	1.00
	Depth to saturated zone	1.00		
	Slope	0.04		

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
CudA:				
Crosby	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00		
CulB:				
Crosby	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.10
	Depth to saturated zone	1.00		
Williamstown	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.10
	Depth to saturated zone	1.00	Depth to saturated zone	0.01
CxdA:				
Cyclone	Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
DbqE:				
Deam, very deep	Very limited:		Very limited:	
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00	Seepage	0.53
EcyAH:				
Eel	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
EcyAW:				
Eel	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
EdeAW:				
Eel	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 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
EepAQ:				
Elkinsville	Somewhat limited:		Somewhat limited:	
	Restricted permeability	0.46	Seepage	0.53
	Flooding	0.40	Flooding	0.40
FdbA:				
Fincastle	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00		
FdqB:				
Fincastle	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00	Slope	0.10
Xenia	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00	Slope	0.10
			Depth to saturated zone	0.01
FexA:				
Fox	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46		
FexAQ:				
Fox	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
			Flooding	0.40
	Restricted permeability	0.46		
	Flooding	0.40		
FexB2:				
Fox	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
			Slope	0.35
	Restricted permeability	0.46		
FgqC3:				
Fox	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
			Slope	1.00
	Restricted permeability	0.46		
	Slope	0.04		
Casco	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
			Slope	1.00
	Slope	0.04		

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
GccAH:				
Genesee	Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00
	Restricted permeability	0.46	Seepage	1.00
GccAW:				
Genesee	Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00
	Restricted permeability	0.46	Seepage	1.00
GcpAW:				
Genesee	Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00
	Restricted permeability	0.46	Seepage	1.00
GgbG:				
Gilwood	Very limited:		Very limited:	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Brownstown	Very limited:		Very limited:	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Slope	1.00	Slope	1.00
	Content of large stones	0.18	Seepage	1.00
GgfD2:				
Gilwood	Very limited:		Very limited:	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Wrays	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.96	Depth to hard bedrock	0.88
	Depth to bedrock	0.96	Seepage	0.53
HcgAW:				
Haymond	Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00
	Restricted permeability	0.46	Seepage	0.53
HctAW:				
Haymond	Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00
	Restricted permeability	0.46	Seepage	0.53
Wirt	Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00
	Restricted permeability	0.46	Seepage	1.00

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
HeoF:				
Hickory	Very limited:		Very limited:	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
HleAW:				
Holton	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	1.00
KugG:				
Kurtz	Very limited:		Very limited:	
	Slope	1.00	Slope	1.00
	Depth to bedrock	0.89	Depth to soft bedrock	0.71
	Restricted permeability	0.46	Seepage	0.53
Gnawbone	Very limited:		Very limited:	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
LeaA:				
Lauer	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.28
	Depth to saturated zone	1.00		
MecAQ:				
Martinsville	Somewhat limited:		Somewhat limited:	
	Restricted permeability	0.46	Seepage	0.53
	Flooding	0.40	Flooding	0.40
MecB:				
Martinsville	Somewhat limited:		Somewhat limited:	
	Restricted permeability	0.46	Seepage	0.53
			Slope	0.35
MfwA:				
Martinsville, sandy substratum	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46		

Table 14a.--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
MfwAQ:				
Martinsville, sandy substratum	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
			Flooding	0.40
	Restricted permeability	0.46		
	Flooding	0.40		
MfwB2:				
Martinsville, sandy substratum	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
			Slope	0.35
	Restricted permeability	0.46		
MfxA:				
Martinsville, sandy substratum	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46		
MhuA:				
McGary	Very limited:		Not limited	
	Restricted permeability	1.00		
	Depth to saturated zone	1.00		
MhyB:				
Medora	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Depth to saturated zone	0.81
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.35
MhyC2:				
Medora	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
			Seepage	0.53
	Slope	0.04		
MjjAH:				
Medway	Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
			Depth to saturated zone	1.00
	Restricted permeability	0.46		

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
MmoC3:				
Miami	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
	Slope	0.04	Seepage	0.53
MmoD3:				
Miami	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
	Slope	1.00	Seepage	0.53
MnpB2:				
Miami	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Depth to saturated zone	0.81
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.35
MnpC2:				
Miami	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
	Slope	0.04	Seepage	0.53
MnpD2:				
Miami	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
	Slope	1.00	Seepage	0.53
MqbA:				
Milton	Very limited:		Very limited:	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Restricted permeability	1.00	Seepage	0.53
MqbB2:				
Milton	Very limited:		Very limited:	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.35
MqbC2:				
Milton	Very limited:		Very limited:	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Seepage	0.53

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
MrbF:				
Milton	Very limited:		Very limited:	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Rock outcrop	Not rated		Not rated	
NaaB2:				
Nabb	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.35
	Depth to saturated zone	1.00	Depth to saturated zone	0.01
NpcA:				
Nineveh	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.32		
NpcAQ:				
Nineveh	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
			Flooding	0.40
	Flooding	0.40		
	Restricted permeability	0.32		
NpeA:				
Nineveh	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46		
NpeAQ:				
Nineveh	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
			Flooding	0.40
	Restricted permeability	0.46		
	Flooding	0.40		
NpeB2:				
Nineveh	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
			Slope	0.35
	Restricted permeability	0.46		
ObaA:				
Ockley	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46		

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
OfaAW:				
Oldenburg	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	1.00
Omz:				
Orthents, earthen dam	Not rated		Not rated	
PcrB2:				
Pekin	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00	Slope	0.35
			Depth to saturated zone	0.01
PcrC2:				
Pekin	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Seepage	0.53
	Slope	0.04	Depth to saturated zone	0.01
PcrC3:				
Pekin	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Seepage	0.53
	Slope	0.04		
PhaA:				
Peoga	Very limited:		Very limited:	
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00	Seepage	0.53
	Depth to saturated zone	1.00		
PlpAV:				
Piopolis	Very limited:		Very limited:	
	Flooding	1.00	Ponding	1.00
	Restricted permeability	1.00	Flooding	1.00
	Ponding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
Pml:				
Pits, quarry	Not rated		Not rated	
PnnD:				
Pike	Very limited:		Very limited:	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
PnnD:				
Chetwynd	Very limited:		Very limited:	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	1.00
PnnF:				
Pike	Very limited:		Very limited:	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Chetwynd	Very limited:		Very limited:	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	1.00
Ppu:				
Pits, sand and gravel	Not rated		Not rated	
RctD3:				
Rarden	Very limited:		Very limited:	
	Restricted permeability	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	1.00
	Depth to saturated zone	1.00		
	Slope	1.00		
Coolville	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to soft bedrock	0.93
	Slope	1.00	Seepage	0.53
	Depth to bedrock	0.98		
RehA:				
Rensselaer	Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
Treaty	Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
ReyA:				
Rensselaer	Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
ReyAQ:				
Rensselaer	Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
	Flooding	0.40	Flooding	0.40
RqaG:				
Rodman	Very limited:		Very limited:	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
RtxAH:				
Rossburg	Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00
	Restricted permeability	0.46	Seepage	1.00
RtxAK:				
Rossburg	Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00
	Restricted permeability	0.46	Seepage	1.00
RywB2:				
Russell	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	0.65	Slope	0.32
			Depth to saturated zone	0.02
SfyA:				
Shircliff	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00	Depth to saturated zone	0.01
SifE:				
Senachwine	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Seepage	0.53
SifG:				
Senachwine	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Seepage	0.53
SldAH:				
Shoals	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	1.00

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
SldAW:				
Shoals	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	1.00
SnfA:				
Sleeth	Very limited:		Very limited:	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46		
SoaB:				
Spickert	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00	Slope	0.35
			Depth to saturated zone	0.01
SocAH:				
Sloan	Very limited:		Very limited:	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.72	Seepage	0.28
SocAW:				
Sloan	Very limited:		Very limited:	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.72	Seepage	0.28
SoeC2:				
Spickert	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Seepage	0.53
	Slope	0.04	Depth to saturated zone	0.01
Wrays	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.96	Depth to hard bedrock	0.88
	Depth to bedrock	0.96	Seepage	0.53

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
SolC2:				
Spickert	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Seepage	0.53
	Slope	0.04	Depth to saturated zone	0.01
Wrays	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to bedrock	0.96	Depth to hard bedrock	0.88
	Slope	0.04	Seepage	0.53
SolC3:				
Spickert	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Seepage	0.53
	Depth to bedrock	0.11		
	Slope	0.04		
Wrays	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to hard bedrock	0.99
	Slope	0.04	Seepage	0.53
StaAV:				
Steff	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	1.00
StdAQ:				
Stendal	Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
	Flooding	0.40	Flooding	0.40
StdAV:				
Stendal	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
StmB:				
Stonehead	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Depth to saturated zone	0.81
	Depth to saturated zone	1.00	Seepage	0.53
	Depth to bedrock	0.09	Slope	0.35

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
SucC2:				
Stonehead	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
	Depth to bedrock	0.09	Seepage	0.53
	Slope	0.04		
Coolville	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to soft bedrock	0.88
	Depth to bedrock	0.96	Seepage	0.53
	Slope	0.04		
SujD5:				
Stonehead, gullied	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to soft bedrock	0.88
	Slope	1.00	Seepage	0.53
	Depth to bedrock	0.96		
SulC2:				
Stonehead	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
	Slope	0.16	Seepage	0.53
	Depth to bedrock	0.09		
Wellrock	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.84	Seepage	0.53
	Depth to bedrock	0.69	Depth to soft bedrock	0.26
SuoAH:				
Stonelick	Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00
			Seepage	1.00
Uaz:				
Udorthents, sandy	Not rated		Not rated	
Uby:				
Udorthents, loamy	Not rated		Not rated	
UemB:				
Urban land	Not rated		Not rated	
Alvin	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
			Slope	0.35

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
UemB:				
Princeton	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46	Slope	0.35
UemC:				
Urban land	Not rated		Not rated	
Alvin	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Slope	0.04	Slope	1.00
Princeton	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46	Slope	1.00
	Slope	0.04		
UenA:				
Urban land	Not rated		Not rated	
Fox	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46		
UenB:				
Urban land	Not rated		Not rated	
Fox	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46	Slope	0.35
UepC:				
Urban land	Not rated		Not rated	
Fox	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46	Slope	1.00
	Slope	0.04		
Casco	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Slope	0.04	Slope	1.00
UfcB:				
Urban land	Not rated		Not rated	

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
UfcB:				
Cincinnati	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.88
	Slope	0.04	Seepage	0.53
Nabb	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00	Slope	0.35
			Depth to saturated zone	0.01
UfdA:				
Urban land	Not rated		Not rated	
Cobbsfork	Very limited:		Very limited:	
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00	Seepage	0.53
	Depth to saturated zone	1.00		
Avonburg	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00		
UfnA:				
Urban land	Not rated		Not rated	
Crosby	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00		
UfoA:				
Urban land	Not rated		Not rated	
Cyclone	Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
UfxA:				
Urban land	Not rated		Not rated	
Fincastle	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00		
UfyB:				
Urban land	Not rated		Not rated	

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
UfyB:				
Fincastle	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00	Slope	0.10
Russell	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	0.65	Slope	0.35
			Depth to saturated zone	0.02
UhyA:				
Urban land	Not rated		Not rated	
Martinsville, sandy substratum	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46		
UkbC:				
Urban land	Not rated		Not rated	
Miami	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
	Slope	0.04	Seepage	0.53
UkpA:				
Urban land	Not rated		Not rated	
Ockley	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46		
UkqA:				
Urban land	Not rated		Not rated	
Nineveh	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46		
UkqB:				
Urban land	Not rated		Not rated	
Nineveh	Very limited:		Very limited:	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46	Slope	0.35

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
UmqA:				
Urban land	Not rated		Not rated	
Sleeth	Very limited:		Very limited:	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46		
UnnA:				
Urban land	Not rated		Not rated	
Westland	Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46		
Usl:				
Udorthents, rubbish-	Not rated		Not rated	
W:				
Water	Not rated		Not rated	
WaaAV:				
Wakeland	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
WaaAW:				
Wakeland	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
WacAW:				
Wakeland	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
Birds	Very limited:		Very limited:	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
WbiAW:				
Wilbur	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
Wakeland	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
WdlC2:				
Wawaka	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Seepage	1.00
WdrB2:				
Wawaka	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.35
WokAW:				
Wilbur	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
WolAV:				
Wilhite	Very limited:		Very limited:	
	Flooding	1.00	Ponding	1.00
	Restricted permeability	1.00	Flooding	1.00
	Ponding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
WprAV:				
Wirt	Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00
	Restricted permeability	0.46	Seepage	1.00
WprAW:				
Wirt	Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00
	Restricted permeability	0.46	Seepage	1.00

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
WqlA:				
Westland	Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46		
WqlAQ:				
Westland	Very limited:		Very limited:	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Flooding	0.40
	Flooding	0.40		
WsuA:				
Whitaker	Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	1.00
WsyAQ:				
Whitaker	Very limited:		Very limited:	
	Depth to saturated zone	1.00	Seepage	1.00
	Filtering capacity	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Flooding	0.40
	Flooding	0.40		
WufB2:				
Williamstown	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00	Slope	0.35
			Depth to saturated zone	0.01
XabB2:				
Xenia	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00	Slope	0.35
			Depth to saturated zone	0.01
XfuB2:				
Miami	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Depth to saturated zone	0.81
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.35

Table 14a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
XfuB2:				
Rainsville	Very limited:		Somewhat limited:	
	Restricted permeability	1.00	Depth to saturated zone	0.81
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.35
XrbC2:				
Miami	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
	Slope	0.04	Seepage	0.53
Rainsville	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
	Slope	0.04	Seepage	0.53
XrkD2:				
Miami	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.81
	Slope	0.96	Seepage	0.53
Kendallville	Very limited:		Very limited:	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.96	Seepage	0.53
ZboA:				
Zipp	Very limited:		Very limited:	
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		

Table 14b.--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
AddA:						
Avonburg	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
AddB2:						
Avonburg	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
AfsB:						
Alvin	Very limited:		Very limited:		Somewhat limited:	
	Seepage	1.00	Seepage	1.00	Seepage	0.52
Princeton	Very limited:		Not limited		Not limited	
	Seepage	1.00				
AfsC2:						
Alvin	Very limited:		Very limited:		Somewhat limited:	
	Seepage	1.00	Seepage	1.00	Seepage	0.52
	Slope	0.04	Slope	0.04	Slope	0.04
Princeton	Very limited:		Somewhat limited:		Somewhat limited:	
	Seepage	1.00	Slope	0.04	Slope	0.04
	Slope	0.04				
AmkA:						
Ayrshire	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
BbhA:						
Bartle	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BbiB:						
Bartle	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Pekin	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BcrAW:						
Beanblossom	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Seepage	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Gravel content	0.80
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	0.14
	Seepage	1.00	Depth to bedrock	0.14	Depth to saturated zone	0.01

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BdhAH:						
Bellcreek----------	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Too clayey	1.00				
BfbAH:						
Bellcreek----------	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Too clayey	1.00				
BgeAW:						
Birds----------	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00		
BlgC2:						
Blocher----------	Very limited:		Somewhat limited:		Very limited:	
	Too clayey	1.00	Depth to saturated zone	0.86	Too clayey	1.00
	Depth to saturated zone	0.86	Slope	0.04	Depth to saturated zone	0.47
	Slope	0.04			Slope	0.04
Cincinnati----------	Very limited:		Very limited:		Somewhat limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Slope	0.04	Slope	0.04	Slope	0.04
BlgC3:						
Blocher----------	Very limited:		Somewhat limited:		Very limited:	
	Too clayey	1.00	Depth to saturated zone	0.86	Too clayey	1.00
	Depth to saturated zone	0.86	Slope	0.04	Depth to saturated zone	0.47
	Slope	0.04			Slope	0.04
Cincinnati----------	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	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
BlhD2:						
Blocher----------	Very limited:		Somewhat limited:		Very limited:	
	Too clayey	1.00	Slope	0.96	Too clayey	1.00
	Slope	0.96	Depth to saturated zone	0.86	Slope	0.96
	Depth to saturated zone	0.86			Depth to saturated zone	0.47
Bonnell----------	Very limited:		Very limited:		Very limited:	
	Too clayey	1.00	Slope	1.00	Too clayey	1.00
	Slope	1.00			Slope	1.00

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BluC:						
Bloomfield----------	Very limited:		Very limited:		Very limited:	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Slope	0.16	Seepage	1.00
	Slope	0.16			Slope	0.16
Alvin----------	Very limited:		Very limited:		Somewhat limited:	
	Seepage	1.00	Seepage	1.00	Seepage	0.52
	Slope	0.16	Slope	0.16	Slope	0.16
BnuD3:						
Bonnell----------	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	1.00			Too clayey	1.00
Hickory----------	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
Blocher----------	Very limited:		Somewhat limited:		Very limited:	
	Too clayey	1.00	Slope	0.96	Too clayey	1.00
	Slope	0.96	Depth to saturated zone	0.86	Slope	0.96
	Depth to saturated zone	0.86			Depth to saturated zone	0.47
BobE5:						
Bonnell, gullied----	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
Hickory, gullied----	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
BodAV:						
Bonnie----------	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00		
CldB2:						
Cincinnati----------	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.80	Depth to saturated zone	0.80	Depth to saturated zone	0.38
Blocher----------	Very limited:		Somewhat limited:		Very limited:	
	Too clayey	1.00	Depth to saturated zone	0.86	Too clayey	1.00
	Depth to saturated zone	0.86			Depth to saturated zone	0.47
ClfA:						
Cobbsfork----------	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 14b.--Sanitary Facilities--Continued

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
CmbAW:						
Cohoctah	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Seepage	0.52
	Seepage	1.00	Seepage	1.00		
CmzA:						
Cliftycreek	Very limited:		Not limited		Somewhat limited:	
	Depth to bedrock	1.00			Too clayey	0.50
	Too clayey	0.50				
CmzB2:						
Cliftycreek	Very limited:		Not limited		Somewhat limited:	
	Depth to bedrock	1.00			Too clayey	0.50
	Too clayey	0.50				
CmzC2:						
Cliftycreek	Very limited:		Somewhat limited:		Somewhat limited:	
	Depth to bedrock	1.00	Slope	0.04	Too clayey	0.50
	Too clayey	0.50			Slope	0.04
	Slope	0.04				
ColD2:						
Coolville	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	Slope	1.00	Too clayey	1.00
	Too clayey	1.00	Depth to bedrock	0.84	Hard to compact	1.00
	Slope	1.00			Slope	1.00
					Depth to bedrock	0.84
Rarden	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Slope	1.00	Too clayey	1.00
	Slope	1.00			Hard to compact	1.00
					Slope	1.00
Stonehead	Very limited:		Somewhat limited:		Somewhat limited:	
	Depth to bedrock	1.00	Depth to saturated zone	0.86	Slope	0.84
	Depth to saturated zone	0.86	Slope	0.84	Too clayey	0.50
	Slope	0.84			Depth to saturated zone	0.47
	Too clayey	0.50				
ConC3:						
Coolville	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	Depth to bedrock	0.94	Too clayey	1.00
	Too clayey	1.00	Slope	0.04	Hard to compact	1.00
	Slope	0.04			Depth to bedrock	0.94
					Slope	0.04

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ConC3:						
Rarden	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Slope	0.04	Too clayey	1.00
	Slope	0.04			Hard to compact	1.00
					Slope	0.04
CudA:						
Crosby	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
CulB:						
Crosby	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Williamstown	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
CxdA:						
Cyclone	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
DbqE:						
Deam, very deep	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	1.00			Too clayey	1.00
EcyAH:						
Eel	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		
	Seepage	1.00				
EcyAW:						
Eel	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		
	Seepage	1.00				
EdeAW:						
Eel	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		
	Seepage	1.00				
EepAQ:						
Elkinsville	Somewhat limited:		Somewhat limited:		Not limited	
	Flooding	0.40	Flooding	0.40		

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
FdbA:						
Fincastle	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
FdqB:						
Fincastle	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
Xenia	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
FexA:						
Fox	Very limited:		Very limited:		Very limited:	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.05
FexAQ:						
Fox	Very limited:		Very limited:		Very limited:	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Flooding	0.40	Seepage	1.00
	Flooding	0.40			Gravel content	0.05
FexB2:						
Fox	Very limited:		Very limited:		Very limited:	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.05
FgqC3:						
Fox	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			Gravel content	0.06
					Slope	0.04
Casco	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			Gravel content	1.00
					Slope	0.04
GccAH:						
Genesee	Very limited:		Very limited:		Somewhat limited:	
	Flooding	1.00	Flooding	1.00	Seepage	0.22
	Seepage	1.00	Seepage	1.00		
GccAW:						
Genesee	Very limited:		Very limited:		Somewhat limited:	
	Flooding	1.00	Flooding	1.00	Seepage	0.22
	Seepage	1.00	Seepage	1.00		

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GcpAW:						
Genesee	Very limited:		Very limited:		Somewhat limited:	
	Flooding	1.00	Flooding	1.00	Seepage	0.22
	Seepage	1.00	Seepage	1.00		
GgbG:						
Gilwood	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
					Gravel content	0.14
Brownstown	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Seepage	1.00	Slope	1.00
	Seepage	1.00	Depth to bedrock	1.00	Seepage	0.52
	Content of large stones	0.18			Content of large stones	0.18
					Gravel content	0.01
GgfD2:						
Gilwood	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
					Gravel content	0.10
Wrays	Very limited:		Somewhat limited:		Somewhat limited:	
	Depth to bedrock	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Depth to bedrock	0.88	Depth to bedrock	0.88
	Too clayey	0.50			Too clayey	0.50
HcgAW:						
Haymond	Very limited:		Very limited:		Not limited	
	Flooding	1.00	Flooding	1.00		
HctAW:						
Haymond	Very limited:		Very limited:		Not limited	
	Flooding	1.00	Flooding	1.00		
Wirt	Very limited:		Very limited:		Not limited	
	Flooding	1.00	Flooding	1.00		
	Seepage	1.00	Seepage	1.00		
HeoF:						
Hickory	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
HleAW:						
Holton	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		
	Seepage	1.00				
KugG:						
Kurtz	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	0.71	Depth to bedrock	0.71
	Too clayey	0.50			Too clayey	0.50

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KugG:						
Gnawbone	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
	Too clayey	0.50			Too clayey	0.50
LeaA:						
Lauer	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
MecAQ:						
Martinsville	Somewhat limited:		Somewhat limited:		Not limited	
	Flooding	0.40	Flooding	0.40		
MecB:						
Martinsville	Not limited		Not limited		Not limited	
MfwA:						
Martinsville, sandy substratum	Very limited:		Not limited		Somewhat limited:	
	Seepage	1.00			Too clayey	0.50
	Too clayey	0.50				
MfwAQ:						
Martinsville, sandy substratum	Very limited:		Somewhat limited:		Somewhat limited:	
	Seepage	1.00	Flooding	0.40	Too clayey	0.50
	Too clayey	0.50				
	Flooding	0.40				
MfwB2:						
Martinsville, sandy substratum	Very limited:		Not limited		Somewhat limited:	
	Seepage	1.00			Too clayey	0.50
	Too clayey	0.50				
MfxA:						
Martinsville, sandy substratum	Very limited:		Not limited		Not limited	
	Seepage	1.00				
MhuA:						
McGary	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
					Hard to compact	1.00
MhyB:						
Medora	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.47
MhyC2:						
Medora	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.47
	Slope	0.04	Slope	0.04	Slope	0.04

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MjjAH:						
Medway	Very limited:		Very limited:		Somewhat limited:	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.95
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Seepage	1.00				
	Too clayey	0.50				
MmoC3:						
Miami	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.47
	Slope	0.04	Slope	0.04	Slope	0.04
MmoD3:						
Miami	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.47
MnpB2:						
Miami	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.47
MnpC2:						
Miami	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.47
	Slope	0.04	Slope	0.04	Slope	0.04
MnpD2:						
Miami	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.47
MqbA:						
Milton	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
MqbB2:						
Milton	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
MqbC2:						
Milton	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
MrbF:						
Milton	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
	Too clayey	0.50			Too clayey	0.50
Rock outcrop	Not rated		Not rated		Not rated	

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NaaB2:						
Nabb	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
NpcA:						
Nineveh	Very limited:		Very limited:		Very limited:	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.81
NpcAQ:						
Nineveh	Very limited:		Very limited:		Very limited:	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Flooding	0.40	Seepage	1.00
	Flooding	0.40			Gravel content	0.81
NpeA:						
Nineveh	Very limited:		Very limited:		Very limited:	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.07
NpeAQ:						
Nineveh	Very limited:		Very limited:		Very limited:	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Flooding	0.40	Seepage	1.00
	Flooding	0.40			Gravel content	0.07
NpeB2:						
Nineveh	Very limited:		Very limited:		Very limited:	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.07
ObaA:						
Ockley	Very limited:		Not limited		Very limited:	
	Seepage	1.00			Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
OfaAW:						
Oldenburg	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		
	Seepage	1.00	Seepage	1.00		
Omz:						
Orthents, earthen dam	Not rated		Not rated		Not rated	
PcrB2:						
Pekin	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PcrC2:						
Pekin	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	0.04	Slope	0.04	Slope	0.04

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PcrC3:						
Pekin	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	0.04	Slope	0.04	Slope	0.04
PhaA:						
Peoga	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PlpAV:						
Piopolis	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
Pml:						
Pits, quarry	Not rated		Not rated		Not rated	
PnnD:						
Pike	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
Chetwynd	Very limited:		Very limited:		Very limited:	
	Seepage	1.00	Slope	1.00	Slope	1.00
	Slope	1.00			Seepage	0.52
PnnF:						
Pike	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
Chetwynd	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00			Seepage	0.52
Ppu:						
Pits, sand and gravel	Not rated		Not rated		Not rated	
RctD3:						
Rarden	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Slope	1.00	Too clayey	1.00
	Slope	1.00			Hard to compact	1.00
					Slope	1.00
Coolville	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	Slope	1.00	Too clayey	1.00
	Too clayey	1.00	Depth to bedrock	0.94	Hard to compact	1.00
	Slope	1.00			Slope	1.00
					Depth to bedrock	0.94

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RehA:						
Rensselaer	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too sandy	1.00			Too sandy	1.00
	Too clayey	0.50			Too clayey	0.50
Treaty	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
ReyA:						
Rensselaer	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too sandy	1.00			Too sandy	1.00
					Too clayey	0.50
ReyAQ:						
Rensselaer	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too sandy	1.00	Flooding	0.40	Too sandy	1.00
	Flooding	0.40			Too clayey	0.50
RqaG:						
Rodman	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
					Gravel content	1.00
RtxAH:						
Rossburg	Very limited:		Very limited:		Somewhat limited:	
	Flooding	1.00	Flooding	1.00	Seepage	0.63
	Seepage	1.00			Too clayey	0.50
RtxAK:						
Rossburg	Very limited:		Very limited:		Somewhat limited:	
	Flooding	1.00	Flooding	1.00	Seepage	0.63
	Seepage	1.00			Too clayey	0.50
RywB2:						
Russell	Somewhat limited:		Not limited		Somewhat limited:	
	Too clayey	0.50			Too clayey	0.50
SfyA:						
Shircliff	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
SifE:						
Senachwine	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SifG:						
Senachwine	Very limited:		Very limited:		Very limited:	
	Slope	1.00	Slope	1.00	Slope	1.00
SldAH:						
Shoals	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	Seepage	0.22
	Seepage	1.00	Seepage	1.00		
SldAW:						
Shoals	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	Seepage	0.22
	Seepage	1.00	Seepage	1.00		
SnfA:						
Sleeth	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				
SoaB:						
Spickert	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
SocAH:						
Sloan	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
SocAW:						
Sloan	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
SoeC2:						
Spickert	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	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
Wrays	Very limited:		Somewhat limited:		Somewhat limited:	
	Depth to bedrock	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Depth to bedrock	0.88	Depth to bedrock	0.88
	Too clayey	0.50			Too clayey	0.50

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SolC2:						
Spickert	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	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
Wrays	Very limited:		Somewhat limited:		Somewhat limited:	
	Depth to bedrock	1.00	Depth to bedrock	0.88	Depth to bedrock	0.88
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
SolC3:						
Spickert	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	Slope	0.04	Slope	0.04
	Slope	0.04				
Wrays	Very limited:		Somewhat limited:		Somewhat limited:	
	Depth to bedrock	1.00	Depth to bedrock	0.99	Depth to bedrock	0.99
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
StaAV:						
Steff	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	Seepage	0.22
	Seepage	1.00	Seepage	1.00		
StdAQ:						
Stendal	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	0.40	Flooding	0.40		
StdAV:						
Stendal	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		
StmB:						
Stonehead	Very limited:		Somewhat limited:		Somewhat limited:	
	Depth to bedrock	1.00	Depth to saturated zone	0.86	Too clayey	0.50
	Depth to saturated zone	0.86			Depth to saturated zone	0.47
	Too clayey	0.50				
SucC2:						
Stonehead	Very limited:		Somewhat limited:		Somewhat limited:	
	Depth to bedrock	1.00	Depth to saturated zone	0.86	Too clayey	0.50
	Depth to saturated zone	0.86	Slope	0.04	Depth to saturated zone	0.47
	Too clayey	0.50			Slope	0.04
	Slope	0.04				

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SucC2:						
Coolville	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	Depth to bedrock	0.88	Too clayey	1.00
	Too clayey	1.00	Slope	0.04	Hard to compact	1.00
	Slope	0.04			Depth to bedrock	0.88
					Slope	0.04
SujD5:						
Stonehead, gullied	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	Slope	1.00	Too clayey	1.00
	Too clayey	1.00	Depth to bedrock	0.88	Hard to compact	1.00
	Slope	1.00			Slope	1.00
					Depth to bedrock	0.88
SulC2:						
Stonehead	Very limited:		Somewhat limited:		Somewhat limited:	
	Depth to bedrock	1.00	Depth to saturated zone	0.86	Too clayey	0.50
	Depth to saturated zone	0.86	Slope	0.16	Depth to saturated zone	0.47
	Too clayey	0.50			Slope	0.16
	Slope	0.16				
Wellrock	Very limited:		Somewhat limited:		Somewhat limited:	
	Depth to bedrock	1.00	Slope	0.84	Slope	0.84
	Slope	0.84	Depth to bedrock	0.26	Too clayey	0.50
	Too clayey	0.50			Depth to bedrock	0.26
SuoAH:						
Stonelick	Very limited:		Very limited:		Somewhat limited:	
	Flooding	1.00	Flooding	1.00	Seepage	0.52
	Seepage	1.00	Seepage	1.00		
Uaz:						
Udorthents, sandy	Not rated		Not rated		Not rated	
Uby:						
Udorthents, loamy	Not rated		Not rated		Not rated	
UemB:						
Urban land	Not rated		Not rated		Not rated	
Alvin	Very limited:		Very limited:		Somewhat limited:	
	Seepage	1.00	Seepage	1.00	Seepage	0.52
Princeton	Very limited:		Not limited		Not limited	
	Seepage	1.00				
UemC:						
Urban land	Not rated		Not rated		Not rated	
Alvin	Very limited:		Very limited:		Somewhat limited:	
	Seepage	1.00	Seepage	1.00	Seepage	0.52
	Slope	0.04	Slope	0.04	Slope	0.04
Princeton	Very limited:		Somewhat limited:		Somewhat limited:	
	Seepage	1.00	Slope	0.04	Slope	0.04
	Slope	0.04				

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UenA:						
Urban land----------	Not rated		Not rated		Not rated	
Fox----------	Very limited:		Very limited:		Very limited:	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.05
UenB:						
Urban land----------	Not rated		Not rated		Not rated	
Fox----------	Very limited:		Very limited:		Very limited:	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.05
UepC:						
Urban land----------	Not rated		Not rated		Not rated	
Fox----------	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			Gravel content	0.06
					Slope	0.04
Casco----------	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			Gravel content	1.00
					Slope	0.04
UfcB:						
Urban land----------	Not rated		Not rated		Not rated	
Cincinnati----------	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.80	Depth to saturated zone	0.80	Depth to saturated zone	0.38
	Slope	0.04	Slope	0.04	Slope	0.04
Nabb----------	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
UfdA:						
Urban land----------	Not rated		Not rated		Not rated	
Cobbsfork----------	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Avonburg----------	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
UfnA:						
Urban land----------	Not rated		Not rated		Not rated	

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UfnA:						
Crosby	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
UfoA:						
Urban land	Not rated		Not rated		Not rated	
Cyclone	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
UfxA:						
Urban land	Not rated		Not rated		Not rated	
Fincastle	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
UfyB:						
Urban land	Not rated		Not rated		Not rated	
Fincastle	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
Russell	Very limited:		Very limited:		Somewhat limited:	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
UhyA:						
Urban land	Not rated		Not rated		Not rated	
Martinsville, sandy substratum	Very limited:		Not limited		Somewhat limited:	
	Seepage	1.00			Too clayey	0.50
	Too clayey	0.50				
UkbC:						
Urban land	Not rated		Not rated		Not rated	
Miami	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.47
	Slope	0.04	Slope	0.04	Slope	0.04
UkpA:						
Urban land	Not rated		Not rated		Not rated	
Ockley	Very limited:		Not limited		Very limited:	
	Seepage	1.00			Too sandy	1.00
	Too sandy	1.00			Seepage	1.00

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UkqA:						
Urban land----------	Not rated		Not rated		Not rated	
Nineveh----------	Very limited:		Very limited:		Very limited:	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.07
UkqB:						
Urban land----------	Not rated		Not rated		Not rated	
Nineveh----------	Very limited:		Very limited:		Very limited:	
	Seepage	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.07
UmqA:						
Urban land----------	Not rated		Not rated		Not rated	
Sleeth----------	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				
UnnA:						
Urban land----------	Not rated		Not rated		Not rated	
Westland----------	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00			Too clayey	0.50
	Too clayey	0.50				
Usl:						
Udorthents, rubbish-	Not rated		Not rated		Not rated	
W:						
Water----------	Not rated		Not rated		Not rated	
WaaAV:						
Wakeland----------	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		
WaaAW:						
Wakeland----------	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		
WacAW:						
Wakeland----------	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 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WacAW:						
Birds	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00		
WbiAW:						
Wilbur	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		
Wakeland	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		
WdlC2:						
Wawaka	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Slope	0.04	Slope	0.04	Too clayey	0.50
					Slope	0.04
WdrB2:						
Wawaka	Somewhat limited:		Not limited		Somewhat limited:	
	Too clayey	0.50			Too clayey	0.50
WokAW:						
Wilbur	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		
WolAV:						
Wilhite	Very limited:		Very limited:		Very limited:	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Too clayey	1.00				
WprAV:						
Wirt	Very limited:		Very limited:		Not limited	
	Flooding	1.00	Flooding	1.00		
	Seepage	1.00	Seepage	1.00		
WprAW:						
Wirt	Very limited:		Very limited:		Not limited	
	Flooding	1.00	Flooding	1.00		
	Seepage	1.00	Seepage	1.00		
WqlA:						
Westland	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00			Too clayey	0.50
	Too clayey	0.50				

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WqlAQ:						
Westland	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage	1.00	Flooding	0.40	Too clayey	0.50
	Too clayey	0.50				
	Flooding	0.40				
WsuA:						
Whitaker	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				
WsyAQ:						
Whitaker	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
	Flooding	0.40	Flooding	0.40		
WufB2:						
Williamstown	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
XabB2:						
Xenia	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
XfuB2:						
Miami	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.47
Rainsville	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.47
XrbC2:						
Miami	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.47
	Slope	0.04	Slope	0.04	Slope	0.04
Rainsville	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.47
	Slope	0.04	Slope	0.04	Slope	0.04
XrkD2:						
Miami	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Slope	0.96	Slope	0.96	Slope	0.96
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.47

Table 14b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
XrkD2:						
Kendallville	Somewhat limited:		Somewhat limited:		Somewhat limited:	
	Slope	0.96	Slope	0.96	Slope	0.96
ZboA:						
Zipp	Very limited:		Very limited:		Very limited:	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00			Too clayey	1.00
					Hard to compact	1.00

Table 15a.--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 gravel or sand. See text for further explanation of ratings in this table.)

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
AddA:				
Avonburg	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
AddB2:				
Avonburg	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
AfsB:				
Alvin	Poor:		Fair:	
	Bottom layer	0.00	Thickest layer	0.08
	Thickest layer	0.00	Bottom layer	0.17
Princeton	Poor:		Fair:	
	Bottom layer	0.00	Thickest layer	0.02
	Thickest layer	0.00	Bottom layer	0.15
AfsC2:				
Alvin	Poor:		Fair:	
	Bottom layer	0.00	Thickest layer	0.08
	Thickest layer	0.00	Bottom layer	0.17
Princeton	Poor:		Fair:	
	Bottom layer	0.00	Thickest layer	0.02
	Thickest layer	0.00	Bottom layer	0.15
AmkA:				
Ayrshire	Poor:		Fair:	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.02
BbhA:				
Bartle	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
BbiB:				
Bartle	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Pekin	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
BcrAW:				
Beanblossom	Fair:		Poor:	
	Thickest layer	0.66	Bottom layer	0.00
	Bottom layer	0.86	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
BdhAH:				
Bellcreek	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
BfbAH:				
Bellcreek	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
BgeAW:				
Birds	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
BlgC2:				
Blocher	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Cincinnati	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
BlgC3:				
Blocher	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Cincinnati	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
BlhD2:				
Blocher	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Bonnell	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
BluC:				
Bloomfield	Poor:		Fair:	
	Bottom layer	0.00	Thickest layer	0.36
	Thickest layer	0.00	Bottom layer	0.43
Alvin	Poor:		Fair:	
	Bottom layer	0.00	Thickest layer	0.08
	Thickest layer	0.00	Bottom layer	0.17
BnuD3:				
Bonnell	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Hickory	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
BnuD3:				
Blocher	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
BobE5:				
Bonnell, gullied	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Hickory, gullied	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
BodAV:				
Bonnie	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
CldB2:				
Cincinnati	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Blocher	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
ClfA:				
Cobbsfork	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
CmbAW:				
Cohoctah	Poor:		Poor:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
CmzA:				
Cliftycreek	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
CmzB2:				
Cliftycreek	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
CmzC2:				
Cliftycreek	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
ColD2:				
Coolville	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Rarden	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
ColD2:				
Stonehead	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
ConC3:				
Coolville	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Rarden	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
CudA:				
Crosby	Poor:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
CulB:				
Crosby	Poor:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
Williamstown	Poor:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
CxdA:				
Cyclone	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
DbqE:				
Deam, very deep	Poor:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
EcyAH:				
Eel	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
EcyAW:				
Eel	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
EdeAW:				
Eel	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
EepAQ:				
Elkinsville	Fair:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.06	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
FdbA:				
Fincastle	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
FdqB:				
Fincastle	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Xenia	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
FexA:				
Fox	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.58
FexAQ:				
Fox	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.58
FexB2:				
Fox	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.58
FgqC3:				
Fox	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.58
Casco	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.71	Bottom layer	0.58
GccAH:				
Genesee	Poor:		Poor:	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
GccAW:				
Genesee	Poor:		Poor:	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
GcpAW:				
Genesee	Poor:		Poor:	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
GgbG:				
Gilwood	Fair:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.29	Thickest layer	0.00
Brownstown	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
GgfD2:				
Gilwood	Fair:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.29	Thickest layer	0.00
Wrays	Fair:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.29	Thickest layer	0.00
HcgAW:				
Haymond	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
HctAW:				
Haymond	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Wirt	Fair:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.15	Thickest layer	0.00
HeoF:				
Hickory	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
HleAW:				
Holton	Poor:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
KugG:				
Kurtz	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Gnawbone	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
LeaA:				
Lauer	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
MecAQ:				
Martinsville	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
MecB:				
Martinsville	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
MfwA:				
Martinsville, sandy substratum	Poor:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.58
MfwAQ:				
Martinsville, sandy substratum	Poor:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.58
MfwB2:				
Martinsville, sandy substratum	Poor:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.58
MfxA:				
Martinsville, sandy substratum	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.07
	Bottom layer	0.64	Bottom layer	0.95
MhuA:				
McGary	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
MhyB:				
Medora	Poor:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
MhyC2:				
Medora	Poor:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
MjjAH:				
Medway	Fair:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.15	Thickest layer	0.00
MmoC3:				
Miami	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
MmoD3:				
Miami	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
MnpB2:				
Miami	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
MnpC2:				
Miami	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
MnpD2:				
Miami	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
MqbA:				
Milton	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
MqbB2:				
Milton	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
MqbC2:				
Milton	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
MrbF:				
Milton	Poor:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
Rock outcrop	Not rated		Not rated	
NaaB2:				
Nabb	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
NpcA:				
Nineveh	Fair:		Fair:	
	Thickest layer	0.15	Thickest layer	0.08
	Bottom layer	0.68	Bottom layer	0.58
NpcAQ:				
Nineveh	Fair:		Fair:	
	Thickest layer	0.15	Thickest layer	0.08
	Bottom layer	0.68	Bottom layer	0.58
NpeA:				
Nineveh	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.58
NpeAQ:				
Nineveh	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.58
NpeB2:				
Nineveh	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.58

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
ObaA:				
Ockley	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.06
	Bottom layer	0.64	Bottom layer	0.84
OfaAW:				
Oldenburg	Poor:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.05
Omz:				
Orthents, earthen dam	Not rated		Not rated	
PcrB2:				
Pekin	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
PcrC2:				
Pekin	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
PcrC3:				
Pekin	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
PhaA:				
Peoga	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
PlpAV:				
Piopolis	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Pml:				
Pits, quarry	Not rated		Not rated	
PnnD:				
Pike	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Chetwynd	Poor:		Fair:	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.31
PnnF:				
Pike	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Chetwynd	Poor:		Fair:	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.31

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
Ppu:				
Pits, sand and gravel	Not rated		Not rated	
RctD3:				
Rarden	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Coolville	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
RehA:				
Rensselaer	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Treaty	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
ReyA:				
Rensselaer	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
ReyAQ:				
Rensselaer	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
RqaG:				
Rodman	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.05
	Bottom layer	0.83	Bottom layer	0.31
RtxAH:				
Rossburg	Poor:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.10
RtxAK:				
Rossburg	Poor:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.10
RywB2:				
Russell	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
SfyA:				
Shircliff	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
SifE:				
Senachwine	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
SifG:				
Senachwine	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
SldAH:				
Shoals	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
SldAW:				
Shoals	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
SnfA:				
Sleeth	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.58
SoaB:				
Spickert	Fair:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.15	Thickest layer	0.00
SocAH:				
Sloan	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
SocAW:				
Sloan	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
SoeC2:				
Spickert	Fair:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.15	Thickest layer	0.00
Wrays	Fair:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.29	Thickest layer	0.00
SolC2:				
Spickert	Fair:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.15	Thickest layer	0.00
Wrays	Fair:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.29	Thickest layer	0.00
SolC3:				
Spickert	Fair:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.15	Thickest layer	0.00
Wrays	Fair:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.29	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
StaAV:				
Steff	Poor:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
StdAQ:				
Stendal	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
StdAV:				
Stendal	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
StmB:				
Stonehead	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
SucC2:				
Stonehead	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Coolville	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
SujD5:				
Stonehead, gullied	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
SulC2:				
Stonehead	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Wellrock	Poor:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
SuoAH:				
Stonelick	Poor:		Fair:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.01
Uaz:				
Udorthents, sandy	Not rated		Not rated	
Uby:				
Udorthents, loamy	Not rated		Not rated	
UemB:				
Urban land	Not rated		Not rated	
Alvin	Poor:		Fair:	
	Bottom layer	0.00	Thickest layer	0.08
	Thickest layer	0.00	Bottom layer	0.17

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
UemB:				
Princeton	Poor:		Fair:	
	Bottom layer	0.00	Thickest layer	0.02
	Thickest layer	0.00	Bottom layer	0.15
UemC:				
Urban land	Not rated		Not rated	
Alvin	Poor:		Fair:	
	Bottom layer	0.00	Thickest layer	0.08
	Thickest layer	0.00	Bottom layer	0.17
Princeton	Poor:		Fair:	
	Bottom layer	0.00	Thickest layer	0.02
	Thickest layer	0.00	Bottom layer	0.15
UenA:				
Urban land	Not rated		Not rated	
Fox	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.58
UenB:				
Urban land	Not rated		Not rated	
Fox	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.58
UepC:				
Urban land	Not rated		Not rated	
Fox	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.58
Casco	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.71	Bottom layer	0.58
UfcB:				
Urban land	Not rated		Not rated	
Cincinnati	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Nabb	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
UfdA:				
Urban land	Not rated		Not rated	
Cobbsfork	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
UfdA:				
Avonburg	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
UfnA:				
Urban land	Not rated		Not rated	
Crosby	Poor:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
UfoA:				
Urban land	Not rated		Not rated	
Cyclone	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
UfxA:				
Urban land	Not rated		Not rated	
Fincastle	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
UfyB:				
Urban land	Not rated		Not rated	
Fincastle	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Russell	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
UhyA:				
Urban land	Not rated		Not rated	
Martinsville, sandy substratum	Poor:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.58
UkbC:				
Urban land	Not rated		Not rated	
Miami	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
UkpA:				
Urban land	Not rated		Not rated	
Ockley	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.06
	Bottom layer	0.64	Bottom layer	0.84

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
UkqA:				
Urban land	Not rated		Not rated	
Nineveh	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.58
UkqB:				
Urban land	Not rated		Not rated	
Nineveh	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.58
UmqA:				
Urban land	Not rated		Not rated	
Sleeth	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.58
UnnA:				
Urban land	Not rated		Not rated	
Westland	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.36
Usl:				
Udorthents, rubbish	Not rated		Not rated	
W:				
Water	Not rated		Not rated	
WaaAV:				
Wakeland	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
WaaAW:				
Wakeland	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
WacAW:				
Wakeland	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Birds	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
WbiAW:				
Wilbur	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Wakeland	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
WdlC2:				
Wawaka	Poor:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.02
WdrB2:				
Wawaka	Poor:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.02
WokAW:				
Wilbur	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
WolAV:				
Wilhite	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
WprAV:				
Wirt	Poor:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
WprAW:				
Wirt	Fair:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.15	Thickest layer	0.00
WqlA:				
Westland	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.36
WqlAQ:				
Westland	Fair:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.60	Bottom layer	0.36
WsuA:				
Whitaker	Poor:		Fair:	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.03
WsyAQ:				
Whitaker	Poor:		Fair:	
	Thickest layer	0.00	Thickest layer	0.10
	Bottom layer	0.00	Bottom layer	0.76
WufB2:				
Williamstown	Poor:		Poor:	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
XabB2:				
Xenia	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 15a.--Construction Materials--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
XfuB2:				
Miami	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Rainsville	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
XrbC2:				
Miami	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Rainsville	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
XrkD2:				
Miami	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Kendallville	Fair:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.15	Thickest layer	0.00
ZboA:				
Zipp	Poor:		Poor:	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 15b.--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 source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AddA:						
Avonburg	Fair:		Poor:		Poor:	
	Too acid	0.03	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.12	Low strength	0.00	Too acid	0.32
	Water erosion	0.37				
AddB2:						
Avonburg	Fair:		Poor:		Poor:	
	Too acid	0.03	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.12	Low strength	0.00	Too acid	0.32
	Water erosion	0.37				
AfsB:						
Alvin	Fair:		Good		Fair:	
	Low content of organic matter	0.12			Too sandy	0.92
	Too sandy	0.92				
	Too acid	0.97				
Princeton	Fair:		Good		Good	
	Too acid	0.68				
	Low content of organic matter	0.88				
	Carbonate content	0.92				
AfsC2:						
Alvin	Fair:		Good		Fair:	
	Low content of organic matter	0.12			Too sandy	0.92
	Too sandy	0.92			Slope	0.96
	Too acid	0.97				
Princeton	Fair:		Good		Fair:	
	Too acid	0.68			Slope	0.96
	Low content of organic matter	0.88				
	Carbonate content	0.92				
AmkA:						
Ayrshire	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too acid	0.84				
BbhA:						
Bartle	Fair:		Poor:		Poor:	
	Too acid	0.05	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.12	Low strength	0.78	Too acid	0.41
	Water erosion	0.37				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
BbiB:						
Bartle	Fair:		Poor:		Poor:	
	Too acid	0.05	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.12			Too acid	0.41
	Water erosion	0.37				
Pekin	Fair:		Fair:		Fair:	
	Too acid	0.03	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Low content of organic matter	0.12			Too acid	0.32
	Water erosion	0.37				
BcrAW:						
Beanblossom	Fair:		Fair:		Poor:	
	Low content of organic matter	0.88	Depth to bedrock	0.87	Hard to reclaim	0.00
	Water erosion	0.90			Rock fragments	0.98
	Too acid	0.92				
BdhAH:						
Bellcreek	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Carbonate content	0.92	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.16		
BfbAH:						
Bellcreek	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Carbonate content	0.92	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.16		
BgeAW:						
Birds	Fair:		Poor:		Poor:	
	Low content of organic matter	0.50	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.68				
BlgC2:						
Blocher	Fair:		Poor:		Fair:	
	Low content of organic matter	0.12	Low strength	0.00	Too acid	0.88
	Too acid	0.26	Depth to saturated zone	0.89	Depth to saturated zone	0.89
	Water erosion	0.68	Shrink-swell	0.98	Slope	0.96
	Carbonate content	0.97				
Cincinnati	Fair:		Poor:		Fair:	
	Low content of organic matter	0.12	Low strength	0.00	Hard to reclaim	0.10
	Too acid	0.26	Depth to saturated zone	0.53	Depth to saturated zone	0.53
	Water erosion	0.37			Too acid	0.82
					Slope	0.96

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BlgC3:						
Blocher----------	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	0.89	Too acid	0.82
	Too acid	0.26	Shrink-swell	0.94	Depth to saturated zone	0.89
	Water erosion	0.68			Slope	0.96
	Carbonate content	0.97				
Cincinnati----------	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Low strength	0.00	Hard to reclaim	0.00
	Too acid	0.26	Depth to saturated zone	0.02	Depth to saturated zone	0.02
	Water erosion	0.37	Shrink-swell	0.99	Too acid	0.82
	Carbonate content	0.97			Slope	0.96
BlhD2:						
Blocher----------	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	0.89	Slope	0.04
	Too acid	0.32	Shrink-swell	0.97	Too acid	0.88
	Water erosion	0.68			Depth to saturated zone	0.89
Bonnell----------	Poor:		Poor:		Poor:	
	Too clayey	0.00	Low strength	0.00	Slope	0.00
	Too acid	0.32	Shrink-swell	0.32	Too clayey	0.00
	Low content of organic matter	0.50	Slope	0.68	Too acid	0.98
	Water erosion	0.68				
	Carbonate content	0.97				
BluC:						
Bloomfield----------	Poor:		Good		Poor:	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00			Slope	0.84
	Low content of organic matter	0.50				
Alvin----------	Poor:		Good		Fair:	
	Wind erosion	0.00			Slope	0.84
	Low content of organic matter	0.12			Too sandy	0.92
	Too sandy	0.92				
	Too acid	0.97				
BnuD3:						
Bonnell----------	Poor:		Fair:		Poor:	
	Too clayey	0.00	Shrink-swell	0.55	Slope	0.00
	Too acid	0.32	Slope	0.68	Too clayey	0.00
	Low content of organic matter	0.50			Too acid	0.88
	Carbonate content	0.97				
Hickory----------	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
	Too acid	0.54	Slope	0.50	Too clayey	0.57
	Carbonate content	0.92	Shrink-swell	0.99	Too acid	0.98
	Too clayey	0.98				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
BnuD3:						
Blocher	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	0.89	Slope	0.04
	Too acid	0.26	Shrink-swell	0.94	Too acid	0.82
	Water erosion	0.68			Depth to saturated zone	0.89
	Carbonate content	0.97				
BobE5:						
Bonnell, gullied	Poor:		Fair:		Poor:	
	Too clayey	0.00	Slope	0.08	Slope	0.00
	Too acid	0.50	Shrink-swell	0.67	Too clayey	0.00
	Low content of organic matter	0.50			Too acid	0.88
	Carbonate content	0.97				
Hickory, gullied	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
	Too acid	0.54	Slope	0.08	Too clayey	0.57
	Carbonate content	0.92			Too acid	0.98
	Too clayey	0.98				
BodAV:						
Bonnie	Fair:		Poor:		Poor:	
	Too acid	0.50	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.50	Low strength	0.00		
	Water erosion	0.90				
CldB2:						
Cincinnati	Fair:		Poor:		Fair:	
	Low content of organic matter	0.12	Low strength	0.00	Hard to reclaim	0.65
	Too acid	0.26	Depth to saturated zone	0.93	Too acid	0.82
	Water erosion	0.37			Depth to saturated zone	0.93
Blocher	Fair:		Poor:		Fair:	
	Low content of organic matter	0.12	Low strength	0.00	Too acid	0.88
	Too acid	0.26	Depth to saturated zone	0.89	Depth to saturated zone	0.89
	Water erosion	0.68	Shrink-swell	0.99		
	Carbonate content	0.97				
ClfA:						
Cobbsfork	Fair:		Poor:		Poor:	
	Too acid	0.08	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.12	Low strength	0.22	Too acid	0.50
	Water erosion	0.37				
CmbAW:						
Cohoctah	Fair:		Poor:		Poor:	
	Low content of organic matter	0.88	Depth to saturated zone	0.00	Depth to saturated zone	0.00

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CmzA:						
Cliftycreek---------	Fair:		Poor:		Fair:	
	Water erosion	0.68	Low strength	0.00	Too clayey	0.49
	Too clayey	0.68	Shrink-swell	0.87		
	Too acid	0.84				
	Low content of organic matter	0.88				
CmzB2:						
Cliftycreek---------	Fair:		Poor:		Fair:	
	Water erosion	0.68	Low strength	0.00	Too clayey	0.49
	Too clayey	0.68	Shrink-swell	0.87		
	Too acid	0.84				
	Low content of organic matter	0.88				
CmzC2:						
Cliftycreek---------	Fair:		Poor:		Fair:	
	Water erosion	0.68	Low strength	0.00	Too clayey	0.49
	Too clayey	0.68	Shrink-swell	0.87	Slope	0.96
	Too acid	0.84				
	Low content of organic matter	0.88				
ColD2:						
Coolville----------	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.12	Low strength	0.00	Too clayey	0.00
	Too acid	0.50	Depth to bedrock	0.16	Slope	0.00
	Water erosion	0.68	Shrink-swell	0.87	Too acid	0.50
Rarden----------	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to bedrock	0.00	Depth to saturated zone	0.00
	Too acid	0.50	Depth to saturated zone	0.00	Slope	0.00
	Low content of organic matter	0.50	Low strength	0.00	Too clayey	0.00
	Water erosion	0.68	Shrink-swell	0.87	Too acid	0.41
	Droughty	0.70			Depth to bedrock	0.97
	Depth to bedrock	0.97				
Stonehead----------	Fair:		Poor:		Fair:	
	Too acid	0.05	Low strength	0.00	Slope	0.16
	Low content of organic matter	0.50	Shrink-swell	0.87	Too acid	0.41
	Water erosion	0.68	Depth to saturated zone	0.89	Depth to saturated zone	0.89
ConC3:						
Coolville----------	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.12	Low strength	0.00	Too clayey	0.00
	Too acid	0.50	Depth to bedrock	0.07	Too acid	0.50
	Water erosion	0.68	Shrink-swell	0.87	Slope	0.96

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
ConC3:						
Rarden	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to bedrock	0.00	Depth to saturated zone	0.00
	Too acid	0.50	Depth to saturated zone	0.00	Too clayey	0.00
	Low content of organic matter	0.50	Low strength	0.00	Too acid	0.41
	Water erosion	0.68	Shrink-swell	0.87	Slope	0.96
	Droughty	0.70			Depth to bedrock	0.97
	Depth to bedrock	0.97				
CudA:						
Crosby	Fair:		Poor:		Poor:	
	Carbonate content	0.08	Depth to saturated zone	0.00	Hard to reclaim	0.00
	Low content of organic matter	0.12			Depth to saturated zone	0.00
	Too clayey	0.32			Too clayey	0.23
	Too acid	0.68				
	Water erosion	0.90				
CulB:						
Crosby	Fair:		Poor:		Poor:	
	Carbonate content	0.08	Depth to saturated zone	0.00	Hard to reclaim	0.00
	Low content of organic matter	0.12			Depth to saturated zone	0.00
	Too clayey	0.32			Too clayey	0.23
	Too acid	0.68				
	Water erosion	0.90				
Williamstown	Fair:		Fair:		Fair:	
	Low content of organic matter	0.12	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Carbonate content	0.20			Hard to reclaim	0.97
	Too acid	0.88				
	Water erosion	0.90				
CxdA:						
Cyclone	Fair:		Poor:		Poor:	
	Carbonate content	0.46	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too clayey	0.98	Low strength	0.00	Too clayey	0.81
	Water erosion	0.99	Shrink-swell	0.89		
DbqE:						
Deam, very deep	Poor:		Poor:		Poor:	
	Too clayey	0.00	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.12	Slope	0.82	Too clayey	0.00
	Too acid	0.50	Shrink-swell	0.96	Too acid	0.59
	Water erosion	0.90				
EcyAH:						
Eel	Fair:		Fair:		Fair:	
	Water erosion	0.99	Depth to saturated zone	0.14	Depth to saturated zone	0.14
EcyAW:						
Eel	Fair:		Fair:		Fair:	
	Water erosion	0.99	Depth to saturated zone	0.14	Depth to saturated zone	0.14

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
EdeAW:						
Eel	Fair:		Fair:		Fair:	
	Water erosion	0.90	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Too acid	0.99				
EepAQ:						
Elkinsville	Fair:		Fair:		Fair:	
	Low content of organic matter	0.12	Shrink-swell	0.87	Too acid	0.88
	Too acid	0.32				
	Water erosion	0.90				
FdbA:						
Fincastle	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Hard to reclaim	0.00
	Water erosion	0.68	Low strength	0.00	Depth to saturated zone	0.00
	Carbonate content	0.74	Shrink-swell	0.97		
	Too acid	0.84				
FdqB:						
Fincastle	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Hard to reclaim	0.00
	Carbonate content	0.46	Low strength	0.00	Depth to saturated zone	0.00
	Water erosion	0.68	Shrink-swell	0.97		
	Too acid	0.68				
Xenia	Fair:		Fair:		Fair:	
	Carbonate content	0.46	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Water erosion	0.68	Shrink-swell	0.95	Hard to reclaim	0.54
	Low content of organic matter	0.88			Too clayey	0.70
	Too acid	0.97				
	Too clayey	0.98				
FexA:						
Fox	Poor:		Good		Poor:	
	Carbonate content	0.00			Hard to reclaim	0.00
	Low content of organic matter	0.12				
	Too acid	0.97				
FexAQ:						
Fox	Poor:		Good		Poor:	
	Carbonate content	0.00			Hard to reclaim	0.00
	Low content of organic matter	0.12				
	Too acid	0.97				
FexB2:						
Fox	Poor:		Good		Poor:	
	Carbonate content	0.00			Hard to reclaim	0.00
	Low content of organic matter	0.12				
	Too acid	0.97				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
FgqC3:						
Fox	Poor:		Good		Poor:	
	Carbonate content	0.00			Hard to reclaim	0.00
	Low content of organic matter	0.12			Slope	0.96
	Too acid	0.97				
Casco	Poor:		Good		Poor:	
	Too sandy	0.00			Too sandy	0.00
	Carbonate content	0.00			Rock fragments	0.00
	Low content of organic matter	0.12			Carbonate content	0.00
	Droughty	0.70			Hard to reclaim	0.00
	Too acid	0.97			Slope	0.96
GccAH:						
Genesee	Fair:		Good		Good	
	Carbonate content	0.92				
	Water erosion	0.99				
GccAW:						
Genesee	Fair:		Good		Good	
	Carbonate content	0.92				
	Water erosion	0.99				
GcpAW:						
Genesee	Fair:		Good		Good	
	Carbonate content	0.92				
	Water erosion	0.99				
GgbG:						
Gilwood	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Slope	0.00
	Too acid	0.50	Slope	0.00	Rock fragments	0.00
	Depth to bedrock	0.71			Too acid	0.59
	Droughty	0.81			Depth to bedrock	0.71
	Water erosion	0.99				
Brownstown	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Slope	0.00
	Droughty	0.20	Slope	0.00	Rock fragments	0.00
	Too acid	0.50	Cobble content	0.51	Too acid	0.59
	Depth to bedrock	0.93			Depth to bedrock	0.93
	Cobble content	0.98				
GgfD2:						
Gilwood	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Rock fragments	0.00
	Too acid	0.50	Slope	0.92	Slope	0.00
	Depth to bedrock	0.71			Too acid	0.59
	Droughty	0.81			Depth to bedrock	0.71
	Water erosion	0.99				
Wrays	Fair:		Poor:		Poor:	
	Too acid	0.50	Low strength	0.00	Hard to reclaim	0.00
	Water erosion	0.68	Depth to bedrock	0.12	Slope	0.04
	Low content of organic matter	0.88	Shrink-swell	0.98	Too acid	0.76

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HcgAW:						
Haymond	Fair:		Good		Good	
	Water erosion	0.37				
	Too acid	0.99				
HctAW:						
Haymond	Fair:		Good		Good	
	Water erosion	0.37				
	Too acid	0.99				
Wirt	Fair:		Good		Good	
	Low content of organic matter	0.50				
	Water erosion	0.90				
	Too acid	0.99				
HeoF:						
Hickory	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Slope	0.00	Slope	0.00
	Too acid	0.54	Low strength	0.00	Too clayey	0.57
	Carbonate content	0.92	Shrink-swell	0.99	Too acid	0.98
	Too clayey	0.98				
	Water erosion	0.99				
HleAW:						
Holton	Fair:		Poor:		Poor:	
	Low content of organic matter	0.50	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.90				
	Too acid	0.95				
KugG:						
Kurtz	Fair:		Poor:		Poor:	
	Too acid	0.50	Slope	0.00	Slope	0.00
	Low content of organic matter	0.50	Low strength	0.00	Too acid	0.50
			Depth to bedrock	0.29		
	Water erosion	0.90	Shrink-swell	0.87		
Gnawbone	Fair:		Poor:		Poor:	
	Too acid	0.50	Depth to bedrock	0.00	Slope	0.00
	Low content of organic matter	0.50	Slope	0.00	Too acid	0.50
			Low strength	0.00	Depth to bedrock	0.99
	Water erosion	0.68				
	Depth to bedrock	0.99				
LeaA:						
Lauer	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too acid	0.32	Low strength	0.00	Too acid	0.88
	Water erosion	0.68	Shrink-swell	0.69		
MecAQ:						
Martinsville	Fair:		Good		Good	
	Carbonate content	0.46				
	Too acid	0.84				
	Low content of organic matter	0.88				
	Water erosion	0.99				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
MecB:						
Martinsville--------	Fair:		Good		Good	
	Carbonate content	0.46				
	Too acid	0.84				
	Low content of organic matter	0.88				
	Water erosion	0.99				
MfwA:						
Martinsville, sandy substratum---------	Poor:		Good		Good	
	Carbonate content	0.00				
	Too acid	0.84				
	Low content of organic matter	0.88				
	Water erosion	0.99				
MfwAQ:						
Martinsville, sandy substratum---------	Poor:		Good		Good	
	Carbonate content	0.00				
	Too acid	0.84				
	Low content of organic matter	0.88				
	Water erosion	0.99				
MfwB2:						
Martinsville, sandy substratum---------	Poor:		Good		Good	
	Carbonate content	0.00				
	Too acid	0.84				
	Low content of organic matter	0.88				
	Water erosion	0.99				
MfxA:						
Martinsville, sandy substratum---------	Fair:		Good		Fair:	
	Low content of organic matter	0.12			Hard to reclaim	0.92
	Too acid	0.46			Too acid	0.98
	Carbonate content	0.68				
MhuA:						
McGary----------	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Carbonate content	0.32	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.50	Shrink-swell	0.27		
	Water erosion	0.68				
MhyB:						
Medora----------	Fair:		Fair:		Fair:	
	Low content of organic matter	0.12	Depth to saturated zone	0.89	Too acid	0.88
	Too acid	0.20			Depth to saturated zone	0.89
	Water erosion	0.37				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
MhyC2:						
Medora	Fair:		Fair:		Fair:	
	Low content of organic matter	0.12	Depth to saturated zone	0.89	Too acid	0.88
	Too acid	0.20	Shrink-swell	0.98	Depth to saturated zone	0.89
	Water erosion	0.37			Slope	0.96
MjjAH:						
Medway	Good		Fair:		Fair:	
			Low strength	0.22	Depth to saturated zone	0.32
			Depth to saturated zone	0.32		
			Shrink-swell	0.96		
MmoC3:						
Miami	Fair:		Fair:		Fair:	
	Low content of organic matter	0.12	Depth to saturated zone	0.89	Too clayey	0.57
	Carbonate content	0.16			Hard to reclaim	0.84
	Too acid	0.95			Depth to saturated zone	0.89
	Too clayey	0.98			Slope	0.96
	Droughty	0.99				
	Water erosion	0.99				
MmoD3:						
Miami	Fair:		Fair:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.89	Slope	0.00
	Carbonate content	0.16			Too clayey	0.57
	Too acid	0.95			Hard to reclaim	0.84
	Too clayey	0.98			Depth to saturated zone	0.89
	Droughty	0.99				
	Water erosion	0.99				
MnpB2:						
Miami	Fair:		Fair:		Fair:	
	Low content of organic matter	0.12	Depth to saturated zone	0.89	Too clayey	0.57
	Carbonate content	0.16			Hard to reclaim	0.65
	Water erosion	0.68			Depth to saturated zone	0.89
	Too acid	0.68				
	Too clayey	0.98				
MnpC2:						
Miami	Fair:		Fair:		Fair:	
	Low content of organic matter	0.12	Depth to saturated zone	0.89	Too clayey	0.57
	Carbonate content	0.16			Hard to reclaim	0.65
	Water erosion	0.68			Depth to saturated zone	0.89
	Too acid	0.68			Slope	0.96
	Too clayey	0.98				
MnpD2:						
Miami	Fair:		Fair:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.89	Slope	0.00
	Carbonate content	0.16			Too clayey	0.57
	Water erosion	0.68			Hard to reclaim	0.65
	Too acid	0.68			Depth to saturated zone	0.89
	Too clayey	0.98				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MqbA:						
Milton	Fair:		Poor:		Fair:	
	Too clayey	0.08	Depth to bedrock	0.00	Too clayey	0.06
	Depth to bedrock	0.65	Low strength	0.00	Depth to bedrock	0.65
	Water erosion	0.68	Shrink-swell	0.94		
	Low content of organic matter	0.88				
	Too acid	0.88				
MqbB2:						
Milton	Fair:		Poor:		Fair:	
	Too clayey	0.08	Depth to bedrock	0.00	Too clayey	0.06
	Depth to bedrock	0.65	Low strength	0.00	Depth to bedrock	0.65
	Water erosion	0.68	Shrink-swell	0.94		
	Low content of organic matter	0.88				
	Too acid	0.88				
MqbC2:						
Milton	Fair:		Poor:		Fair:	
	Too clayey	0.08	Depth to bedrock	0.00	Too clayey	0.06
	Depth to bedrock	0.65	Low strength	0.00	Depth to bedrock	0.65
	Water erosion	0.68	Shrink-swell	0.94	Slope	0.96
	Low content of organic matter	0.88				
	Too acid	0.88				
MrbF:						
Milton	Fair:		Poor:		Poor:	
	Depth to bedrock	0.16	Depth to bedrock	0.00	Slope	0.00
	Droughty	0.71	Slope	0.00	Depth to bedrock	0.16
	Low content of organic matter	0.88	Low strength	0.00	Too clayey	0.66
			Shrink-swell	0.87		
	Too clayey	0.92				
	Too acid	0.97				
	Water erosion	0.99				
Rock outcrop	Not rated		Not rated		Not rated	
NaaB2:						
Nabb	Fair:		Poor:		Fair:	
	Too acid	0.12	Low strength	0.00	Depth to saturated zone	0.14
	Low content of organic matter	0.12	Depth to saturated zone	0.14	Too acid	0.76
	Water erosion	0.37				
NpcA:						
Nineveh	Poor:		Good		Poor:	
	Too sandy	0.00			Too sandy	0.00
	Carbonate content	0.00			Rock fragments	0.00
	Low content of organic matter	0.12			Carbonate content	0.00
					Hard to reclaim	0.00
	Droughty	0.49				
NpcAQ:						
Nineveh	Poor:		Good		Poor:	
	Too sandy	0.00			Too sandy	0.00
	Carbonate content	0.00			Rock fragments	0.00
	Low content of organic matter	0.12			Carbonate content	0.00
					Hard to reclaim	0.00
	Droughty	0.49				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NpeA:						
Nineveh	Fair:		Good		Poor:	
	Low content of organic matter	0.12			Hard to reclaim	0.00
	Carbonate content	0.68				
NpeAQ:						
Nineveh	Fair:		Good		Poor:	
	Low content of organic matter	0.12			Hard to reclaim	0.00
	Carbonate content	0.68				
NpeB2:						
Nineveh	Fair:		Good		Poor:	
	Low content of organic matter	0.12			Hard to reclaim	0.00
	Carbonate content	0.68				
ObaA:						
Ockley	Poor:		Fair:		Fair:	
	Carbonate content	0.00	Shrink-swell	0.98	Hard to reclaim	0.10
	Low content of organic matter	0.12				
	Too acid	0.97				
OfaAW:						
Oldenburg	Fair:		Fair:		Fair:	
	Low content of organic matter	0.88	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Water erosion	0.90				
Omz:						
Orthents, earthen dam	Not rated		Not rated		Not rated	
PcrB2:						
Pekin	Fair:		Fair:		Fair:	
	Too acid	0.03	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Low content of organic matter	0.12			Too acid	0.32
	Water erosion	0.37				
PcrC2:						
Pekin	Fair:		Poor:		Fair:	
	Too acid	0.03	Low strength	0.00	Depth to saturated zone	0.14
	Low content of organic matter	0.12	Depth to saturated zone	0.14	Too acid	0.76
	Water erosion	0.37			Slope	0.96
PcrC3:						
Pekin	Fair:		Poor:		Poor:	
	Too acid	0.03	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.12			Too acid	0.32
	Water erosion	0.37			Slope	0.96

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PhaA:						
Peoga	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too acid	0.16	Low strength	0.00	Too acid	0.68
	Water erosion	0.37				
PlpAV:						
Piopolis	Fair:		Poor:		Poor:	
	Too acid	0.50	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.50	Low strength	0.00	Too clayey	0.64
	Water erosion	0.90	Shrink-swell	0.87	Too acid	0.95
	Too clayey	0.98				
Pml:						
Pits, quarry	Not rated		Not rated		Not rated	
PnnD:						
Pike	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
	Too acid	0.32	Shrink-swell	0.99	Too acid	0.88
	Water erosion	0.68				
Chetwynd	Fair:		Fair:		Poor:	
	Low content of organic matter	0.12	Shrink-swell	0.99	Slope	0.00
	Too acid	0.16			Too acid	0.68
	Water erosion	0.68				
PnnF:						
Pike	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Slope	0.00	Slope	0.00
	Too acid	0.32	Low strength	0.00	Too acid	0.88
	Water erosion	0.68	Shrink-swell	0.99		
Chetwynd	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Slope	0.00	Slope	0.00
	Too acid	0.16	Shrink-swell	0.99	Too acid	0.68
	Water erosion	0.68				
Ppu:						
Pits, sand and gravel	Not rated		Not rated		Not rated	
RctD3:						
Rarden	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to bedrock	0.00	Depth to saturated zone	0.00
	Droughty	0.24	Depth to saturated zone	0.00	Slope	0.00
	Too acid	0.50	Low strength	0.00	Too clayey	0.00
	Low content of organic matter	0.50	Shrink-swell	0.87	Too acid	0.41
	Water erosion	0.68	Slope	0.92	Depth to bedrock	0.71
	Depth to bedrock	0.71				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RctD3:						
Coolville----------	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.12	Low strength	0.00	Too clayey	0.00
	Too acid	0.50	Depth to bedrock	0.07	Slope	0.00
	Water erosion	0.68	Shrink-swell	0.87	Too acid	0.50
RehA:						
Rensselaer----------	Good		Poor:		Poor:	
			Depth to saturated zone	0.00	Depth to saturated zone	0.00
Treaty----------	Fair:		Poor:		Poor:	
	Carbonate content	0.46	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too clayey	0.82	Low strength	0.00	Too clayey	0.72
	Low content of organic matter	0.88	Shrink-swell	0.91		
	Water erosion	0.99				
ReyA:						
Rensselaer----------	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
ReyAQ:						
Rensselaer----------	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
RqaG:						
Rodman----------	Poor:		Poor:		Poor:	
	Too sandy	0.00	Slope	0.00	Slope	0.00
	Carbonate content	0.01			Hard to reclaim	0.00
	Low content of organic matter	0.12			Too sandy	0.00
					Rock fragments	0.00
	Droughty	0.26			Carbonate content	0.01
RtxAH:						
Rossburg----------	Fair:		Good		Good	
	Water erosion	0.99				
RtxAK:						
Rossburg----------	Fair:		Good		Good	
	Water erosion	0.99				
RywB2:						
Russell----------	Fair:		Poor:		Poor:	
	Too acid	0.26	Low strength	0.00	Hard to reclaim	0.00
	Carbonate content	0.46	Shrink-swell	0.94	Too acid	0.82
	Water erosion	0.68				
	Low content of organic matter	0.88				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
SfyA:						
Shircliff	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
	Too acid	0.32	Shrink-swell	0.51		
	Water erosion	0.68				
	Carbonate content	0.68				
SifE:						
Senachwine	Fair:		Fair:		Poor:	
	Carbonate content	0.46	Slope	0.50	Slope	0.00
	Low content of organic matter	0.88				
	Water erosion	0.99				
SifG:						
Senachwine	Fair:		Poor:		Poor:	
	Carbonate content	0.46	Slope	0.00	Slope	0.00
	Low content of organic matter	0.88				
	Water erosion	0.99				
SldAH:						
Shoals	Fair:		Poor:		Poor:	
	Water erosion	0.99	Depth to saturated zone	0.00	Depth to saturated zone	0.00
SldAW:						
Shoals	Fair:		Poor:		Poor:	
	Water erosion	0.99	Depth to saturated zone	0.00	Depth to saturated zone	0.00
SnfA:						
Sleeth	Poor:		Poor:		Poor:	
	Carbonate content	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.88	Low strength	0.22	Hard to reclaim	0.92
	Too acid	0.97	Shrink-swell	0.97		
SoaB:						
Spickert	Fair:		Poor:		Fair:	
	Too acid	0.16	Low strength	0.00	Depth to saturated zone	0.14
	Water erosion	0.37	Depth to saturated zone	0.14	Too acid	0.92
	Low content of organic matter	0.50				
SocAH:						
Sloan	Fair:		Poor:		Poor:	
	Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Low strength	0.00	Too clayey	0.81
			Shrink-swell	0.98		
SocAW:						
Sloan	Fair:		Poor:		Poor:	
	Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Low strength	0.00	Too clayey	0.81
			Shrink-swell	0.98		

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SoeC2:						
Spickert	Fair:		Poor:		Fair:	
	Too acid	0.16	Low strength	0.00	Depth to saturated zone	0.14
	Water erosion	0.37	Depth to saturated zone	0.14	Too acid	0.92
	Low content of organic matter	0.50			Slope	0.96
Wrays	Fair:		Poor:		Poor:	
	Too acid	0.50	Low strength	0.00	Hard to reclaim	0.00
	Water erosion	0.68	Depth to bedrock	0.12	Slope	0.04
	Low content of organic matter	0.88	Shrink-swell	0.98	Too acid	0.76
SolC2:						
Spickert	Fair:		Poor:		Fair:	
	Too acid	0.16	Low strength	0.00	Depth to saturated zone	0.14
	Water erosion	0.37	Depth to saturated zone	0.14	Too acid	0.92
	Low content of organic matter	0.50			Slope	0.96
Wrays	Fair:		Poor:		Poor:	
	Too acid	0.50	Low strength	0.00	Hard to reclaim	0.00
	Water erosion	0.68	Depth to bedrock	0.12	Too acid	0.76
	Low content of organic matter	0.88	Shrink-swell	0.98	Slope	0.96
SolC3:						
Spickert	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too acid	0.16	Low strength	0.78	Too acid	0.68
	Water erosion	0.37			Slope	0.96
Wrays	Fair:		Poor:		Poor:	
	Too acid	0.50	Low strength	0.00	Hard to reclaim	0.00
	Water erosion	0.68	Depth to bedrock	0.01	Too acid	0.76
	Low content of organic matter	0.88	Shrink-swell	0.97	Slope	0.96
StaAV:						
Steff	Fair:		Fair:		Fair:	
	Low content of organic matter	0.12	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Too acid	0.50			Too acid	0.88
	Water erosion	0.68				
StdAQ:						
Stendal	Fair:		Poor:		Poor:	
	Too acid	0.32	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.50	Low strength	0.00	Too acid	0.88
	Water erosion	0.68				
StdAV:						
Stendal	Fair:		Poor:		Poor:	
	Too acid	0.32	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.50	Low strength	0.00	Too acid	0.88
	Water erosion	0.68				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
StmB:						
Stonehead----------	Fair:		Poor:		Fair:	
	Too acid	0.05	Low strength	0.00	Too acid	0.41
	Low content of organic matter	0.50	Shrink-swell	0.87	Depth to saturated zone	0.89
	Water erosion	0.68	Depth to saturated zone	0.89		
SucC2:						
Stonehead----------	Fair:		Poor:		Fair:	
	Too acid	0.05	Low strength	0.00	Too acid	0.41
	Low content of organic matter	0.50	Shrink-swell	0.87	Depth to saturated zone	0.89
	Water erosion	0.68	Depth to saturated zone	0.89	Slope	0.96
Coolville----------	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.12	Low strength	0.00	Too clayey	0.00
	Too acid	0.50	Depth to bedrock	0.12	Too acid	0.50
	Water erosion	0.68	Shrink-swell	0.87	Slope	0.96
SujD5:						
Stonehead, gullied--	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.12	Low strength	0.00	Too clayey	0.00
	Water erosion	0.37	Depth to bedrock	0.12	Slope	0.00
	Too acid	0.50	Shrink-swell	0.87	Too acid	0.50
			Slope	0.98		
SulC2:						
Stonehead----------	Fair:		Poor:		Fair:	
	Too acid	0.05	Low strength	0.00	Too acid	0.41
	Low content of organic matter	0.50	Shrink-swell	0.87	Slope	0.84
	Water erosion	0.68	Depth to saturated zone	0.89	Depth to saturated zone	0.89
Wellrock----------	Fair:		Poor:		Fair:	
	Water erosion	0.37	Low strength	0.00	Slope	0.16
	Too acid	0.50	Depth to bedrock	0.74	Too acid	0.41
	Low content of organic matter	0.88				
SuoAH:						
Stonelick----------	Fair:		Good		Fair:	
	Carbonate content	0.92			Carbonate content	0.92
Uaz:						
Udorthents, sandy---	Not rated		Not rated		Not rated	
Uby:						
Udorthents, loamy---	Not rated		Not rated		Not rated	
UemB:						
Urban land----------	Not rated		Not rated		Not rated	
Alvin----------	Fair:		Good		Fair:	
	Low content of organic matter	0.12			Too sandy	0.92
	Too sandy	0.92				
	Too acid	0.97				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UemB:						
Princeton	Fair:		Good		Good	
	Too acid	0.68				
	Low content of organic matter	0.88				
	Carbonate content	0.92				
UemC:						
Urban land	Not rated		Not rated		Not rated	
Alvin	Fair:		Good		Fair:	
	Low content of organic matter	0.12			Too sandy	0.92
					Slope	0.96
	Too sandy	0.92				
	Too acid	0.97				
Princeton	Fair:		Good		Fair:	
	Too acid	0.68			Slope	0.96
	Low content of organic matter	0.88				
	Carbonate content	0.92				
UenA:						
Urban land	Not rated		Not rated		Not rated	
Fox	Poor:		Good		Poor:	
	Carbonate content	0.00			Hard to reclaim	0.00
	Low content of organic matter	0.12				
	Too acid	0.97				
UenB:						
Urban land	Not rated		Not rated		Not rated	
Fox	Poor:		Good		Poor:	
	Carbonate content	0.00			Hard to reclaim	0.00
	Low content of organic matter	0.12				
	Too acid	0.97				
UepC:						
Urban land	Not rated		Not rated		Not rated	
Fox	Poor:		Good		Poor:	
	Carbonate content	0.00			Hard to reclaim	0.00
	Low content of organic matter	0.12			Slope	0.96
	Too acid	0.97				
Casco	Poor:		Good		Poor:	
	Too sandy	0.00			Too sandy	0.00
	Carbonate content	0.00			Rock fragments	0.00
	Low content of organic matter	0.12			Carbonate content	0.00
					Hard to reclaim	0.00
	Droughty	0.70			Slope	0.96
	Too acid	0.97				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
UfcB:						
Urban land	Not rated		Not rated		Not rated	
Cincinnati	Fair:		Poor:		Fair:	
	Low content of organic matter	0.12	Low strength	0.00	Hard to reclaim	0.10
	Too acid	0.26	Depth to saturated zone	0.93	Too acid	0.82
	Water erosion	0.37			Depth to saturated zone	0.93
					Slope	0.96
Nabb	Fair:		Poor:		Fair:	
	Too acid	0.12	Low strength	0.00	Depth to saturated zone	0.14
	Low content of organic matter	0.12	Depth to saturated zone	0.14	Too acid	0.76
	Water erosion	0.37				
UfdA:						
Urban land	Not rated		Not rated		Not rated	
Cobbsfork	Fair:		Poor:		Poor:	
	Too acid	0.08	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.12	Low strength	0.22	Too acid	0.50
	Water erosion	0.37				
Avonburg	Fair:		Poor:		Poor:	
	Too acid	0.03	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.12	Low strength	0.00	Too acid	0.32
	Water erosion	0.37				
UfnA:						
Urban land	Not rated		Not rated		Not rated	
Crosby	Fair:		Poor:		Poor:	
	Carbonate content	0.08	Depth to saturated zone	0.00	Hard to reclaim	0.00
	Low content of organic matter	0.12			Depth to saturated zone	0.00
	Too clayey	0.32			Too clayey	0.23
	Too acid	0.68				
	Water erosion	0.90				
UfoA:						
Urban land	Not rated		Not rated		Not rated	
Cyclone	Fair:		Poor:		Poor:	
	Carbonate content	0.68	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too acid	0.99	Low strength	0.00		
	Water erosion	0.99	Shrink-swell	0.87		
UfxA:						
Urban land	Not rated		Not rated		Not rated	
Fincastle	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Hard to reclaim	0.00
	Water erosion	0.68	Low strength	0.00	Depth to saturated zone	0.00
	Carbonate content	0.74	Shrink-swell	0.97		
	Too acid	0.84				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UfyB:						
Urban land	Not rated		Not rated		Not rated	
Fincastle	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Hard to reclaim	0.00
	Water erosion	0.68	Low strength	0.00	Depth to saturated zone	0.00
	Carbonate content	0.74	Shrink-swell	0.97		
	Too acid	0.84				
Russell	Fair:		Poor:		Poor:	
	Too acid	0.26	Low strength	0.00	Hard to reclaim	0.00
	Carbonate content	0.46	Shrink-swell	0.94	Too acid	0.82
	Water erosion	0.68				
	Low content of organic matter	0.88				
UhyA:						
Urban land	Not rated		Not rated		Not rated	
Martinsville, sandy substratum	Poor:		Good		Good	
	Carbonate content	0.00				
	Too acid	0.84				
	Low content of organic matter	0.88				
	Water erosion	0.99				
UkbC:						
Urban land	Not rated		Not rated		Not rated	
Miami	Fair:		Fair:		Fair:	
	Low content of organic matter	0.12	Depth to saturated zone	0.89	Too clayey	0.57
	Carbonate content	0.16			Hard to reclaim	0.65
	Water erosion	0.68			Depth to saturated zone	0.89
	Too acid	0.68			Slope	0.96
	Too clayey	0.98				
UkpA:						
Urban land	Not rated		Not rated		Not rated	
Ockley	Poor:		Fair:		Fair:	
	Carbonate content	0.00	Shrink-swell	0.98	Hard to reclaim	0.10
	Low content of organic matter	0.12				
	Too acid	0.97				
UkqA:						
Urban land	Not rated		Not rated		Not rated	
Nineveh	Fair:		Good		Poor:	
	Low content of organic matter	0.12			Hard to reclaim	0.00
	Carbonate content	0.68				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
UkqB:						
Urban land	Not rated		Not rated		Not rated	
Nineveh	Fair:		Good		Poor:	
	Low content of organic matter	0.12			Hard to reclaim	0.00
	Carbonate content	0.68				
UmqA:						
Urban land	Not rated		Not rated		Not rated	
Sleeth	Poor:		Poor:		Poor:	
	Carbonate content	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.88	Low strength	0.22	Hard to reclaim	0.92
	Too acid	0.97	Shrink-swell	0.97		
UnnA:						
Urban land	Not rated		Not rated		Not rated	
Westland	Poor:		Poor:		Poor:	
	Carbonate content	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too clayey	0.92	Low strength	0.00	Hard to reclaim	0.00
			Shrink-swell	0.99	Too clayey	0.76
					Rock fragments	0.88
Usl:						
Udorthents, rubbish	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	
WaaAV:						
Wakeland	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.37				
	Too acid	0.99				
WaaAW:						
Wakeland	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.37				
	Too acid	0.99				
WacAW:						
Wakeland	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.37				
	Too acid	0.99				
Birds	Fair:		Poor:		Poor:	
	Low content of organic matter	0.50	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.68				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WbiAW:						
Wilbur	Fair:		Fair:		Fair:	
	Water erosion	0.37	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Low content of organic matter	0.88				
	Too acid	0.99				
Wakeland	Fair:		Poor:		Poor:	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.37				
	Too acid	0.99				
WdlC2:						
Wawaka	Fair:		Good		Fair:	
	Low content of organic matter	0.12			Hard to reclaim	0.54
	Too acid	0.68			Too clayey	0.57
	Too clayey	0.98			Slope	0.96
	Water erosion	0.99				
WdrB2:						
Wawaka	Fair:		Poor:		Fair:	
	Low content of organic matter	0.12	Low strength	0.00	Hard to reclaim	0.05
			Shrink-swell	0.90	Too clayey	0.57
	Too acid	0.68				
	Water erosion	0.90				
	Too clayey	0.98				
WokAW:						
Wilbur	Fair:		Fair:		Fair:	
	Water erosion	0.37	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Low content of organic matter	0.88				
	Too acid	0.99				
WolAV:						
Wilhite	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too acid	0.92				
	Water erosion	0.99	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.53		
WprAV:						
Wirt	Fair:		Good		Good	
	Low content of organic matter	0.50				
	Water erosion	0.99				
WprAW:						
Wirt	Fair:		Good		Good	
	Low content of organic matter	0.50				
	Water erosion	0.99				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
WqlA:						
Westland	Poor:		Poor:		Poor:	
	Carbonate content	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too clayey	0.92	Low strength	0.00	Hard to reclaim	0.00
			Shrink-swell	0.99	Too clayey	0.76
					Rock fragments	0.88
WqlAQ:						
Westland	Poor:		Poor:		Poor:	
	Carbonate content	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Too clayey	0.92	Low strength	0.00	Hard to reclaim	0.00
			Shrink-swell	0.99	Too clayey	0.76
					Rock fragments	0.88
WsuA:						
Whitaker	Fair:		Poor:		Poor:	
	Carbonate content	0.80	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.88	Low strength	0.00		
	Too acid	0.88	Shrink-swell	0.99		
WsyAQ:						
Whitaker	Fair:		Poor:		Poor:	
	Low content of organic matter	0.18	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Carbonate content	0.39				
	Too acid	0.84				
WufB2:						
Williamstown	Fair:		Fair:		Fair:	
	Low content of organic matter	0.12	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Carbonate content	0.20			Hard to reclaim	0.97
	Too acid	0.88				
	Water erosion	0.90				
XabB2:						
Xenia	Fair:		Fair:		Fair:	
	Carbonate content	0.46	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Water erosion	0.68	Shrink-swell	0.95	Hard to reclaim	0.54
	Low content of organic matter	0.88			Too clayey	0.70
	Too acid	0.97				
	Too clayey	0.98				
XfuB2:						
Miami	Fair:		Fair:		Fair:	
	Low content of organic matter	0.12	Depth to saturated zone	0.89	Too clayey	0.57
	Carbonate content	0.32			Hard to reclaim	0.65
	Too acid	0.50			Depth to saturated zone	0.89
	Water erosion	0.68				
	Too clayey	0.98				

Table 15b.--Construction Materials--Continued

Map symbol and soil name	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
XfuB2:						
Rainsville----------	Fair:		Fair:		Poor:	
	Too acid	0.32	Low strength	0.78	Hard to reclaim	0.00
	Carbonate content	0.32	Depth to saturated zone	0.89	Too acid	0.88
	Water erosion	0.68	Shrink-swell	0.99	Depth to saturated zone	0.89
	Low content of organic matter	0.88			Rock fragments	0.94
XrbC2:						
Miami----------	Fair:		Fair:		Fair:	
	Low content of organic matter	0.12	Depth to saturated zone	0.89	Too clayey	0.57
	Carbonate content	0.16			Depth to saturated zone	0.89
	Too acid	0.74			Hard to reclaim	0.94
	Too clayey	0.98			Slope	0.96
	Water erosion	0.99				
Rainsville----------	Fair:		Fair:		Fair:	
	Carbonate content	0.46	Low strength	0.78	Hard to reclaim	0.54
	Too acid	0.54	Depth to saturated zone	0.89	Depth to saturated zone	0.89
	Low content of organic matter	0.88	Shrink-swell	0.99	Rock fragments	0.94
	Water erosion	0.90			Slope	0.96
					Too acid	0.98
XrkD2:						
Miami----------	Fair:		Fair:		Fair:	
	Low content of organic matter	0.12	Depth to saturated zone	0.89	Slope	0.04
	Carbonate content	0.16			Too clayey	0.57
	Too acid	0.68			Depth to saturated zone	0.89
	Too clayey	0.98			Hard to reclaim	0.94
	Water erosion	0.99				
Kendallville--------	Fair:		Good		Poor:	
	Low content of organic matter	0.12			Hard to reclaim	0.00
	Carbonate content	0.46			Slope	0.04
	Too clayey	0.98			Rock fragments	0.28
	Water erosion	0.99			Too clayey	0.57
ZboA:						
Zipp----------	Poor:		Poor:		Poor:	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.90	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.53		

Table 16.--Engineering Index Properties

(Absence of an entry indicates that the data were not estimated. The representative values for USDA texture and for Unified and AASHTO classifications are designated with an asterisk.)

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	
AddA:												
Avonburg--------	0-11	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-90	23-40	3-15
	11-21	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-85	23-40	3-15
	21-37	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	85-90	25-45	5-20
	37-52	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-95	75-85	25-45	5-20
	52-83	Silt loam*-------	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-95	70-80	25-45	5-20
	83-90	Clay loam*-------	CL*	A-7-6*, A-6	0-1	0-1	90-100	85-95	70-90	55-70	36-48	15-25
AddB2:												
Avonburg--------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-90	23-40	3-15
	7-16	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-85	23-40	3-15
	16-32	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	85-90	25-45	5-20
	32-42	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-95	75-85	25-45	5-20
	42-63	Silt loam*-------	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-95	70-80	25-45	5-20
	63-80	Clay loam*-------	CL*	A-7-6*, A-6	0-1	0-1	90-100	85-95	70-90	55-70	36-48	15-25
AfsB:												
Alvin----------	0-7	Fine sandy loam*	SM*, SC-SM	A-4*, A-2-4	0	0	100	100	80-100	25-50	0-25	NP-7
	7-10	Fine sandy loam*, sandy loam, loamy fine sand.	SM*, SC-SM	A-2-4*, A-4	0	0	100	100	70-100	15-45	0-25	NP-7
	10-40	Fine sandy loam*, sandy loam, sandy clay loam, loam.	SC*, ML, SM, SC-SM, CL	A-2-4*, A-4, A-2-6, A-6	0	0	100	100	70-100	20-50	15-32	NP-13
	40-70	Loamy sand*, sandy loam, fine sandy loam, fine sand.	SM*, SC, SC-SM	A-2-4*, A-2	0	0	100	100	70-100	15-45	0-25	NP-9
	70-80	Fine sand*, loamy fine sand, sand, sandy loam.	SM*, SP-SM, SW-SM	A-2-4*, A-3	0	0	100	100	50-90	5-20	0-20	NP-4

Table 16.--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	
AfsB:												
Princeton-------	0-8	Fine sandy loam*	SC-SM*, SC, SM	A-4*, A-2-4	0	0	100	100	80-100	25-50	0-30	NP-11
	8-41	Fine sandy loam*, sandy clay loam, sandy loam, loam.	SC*, CL	A-4*, A-2-4, A-2-6, A-6	0	0	100	100	70-90	15-70	28-34	9-14
	41-60	Loamy sand*, sand, fine sand, loamy fine sand, fine sandy loam, sandy loam, loam.	SC-SM*, SC	A-2-4*	0	0	100	100	70-95	10-35	2-25	NP-10
	60-80	Stratified fine sand to loamy sand to loamy fine sand to fine sandy loam*.	SM*, SC-SM	A-2-4*	0	0	100	100	70-95	0-30	0-20	NP-4
AfsC2:												
Alvin----------	0-7	Fine sandy loam*	SM*, SC-SM	A-4*, A-2-4	0	0	100	100	80-100	25-50	0-25	NP-7
	7-10	Fine sandy loam*, loamy fine sand, loamy sand.	SM*, SC-SM	A-2-4*, A-4	0	0	100	100	70-100	15-45	0-25	NP-7
	10-40	Fine sandy loam*, sandy loam, sandy clay loam, loam.	SC*, ML, SM, SC-SM, CL	A-2-4*, A-4, A-2-6, A-6	0	0	100	100	70-100	20-50	15-32	NP-13
	40-70	Loamy sand*, sandy loam, fine sandy loam, fine sand.	SM*, SC, SC-SM	A-2-4*, A-2	0	0	100	100	70-100	15-45	0-25	NP-9
	70-80	Fine sand*, loamy fine sand, sand, sandy loam.	SM*, SP-SM, SW-SM	A-2-4*, A-3	0	0	100	100	50-90	5-20	0-20	NP-4
Princeton-------	0-8	Fine sandy loam*	SC-SM*, SC, SM	A-4*, A-2-4	0	0	100	100	80-100	25-50	0-30	NP-11
	8-41	Fine sandy loam*, sandy clay loam, sandy loam, loam.	SC*, CL	A-4*, A-2-4, A-2-6, A-6	0	0	100	100	70-90	15-70	28-34	9-14
	41-60	Loamy sand*, sand, fine sand, loamy fine sand, fine sandy loam, sandy loam, loam.	SC-SM*, SC	A-2-4*	0	0	100	100	70-95	10-35	2-25	NP-10
	60-80	Stratified fine sand to loamy sand to loamy fine sand to fine sandy loam*.	SM*, SC-SM	A-2-4*	0	0	100	100	70-95	0-30	0-20	NP-4

Table 16.--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	
AmkA:												
Ayrshire--------	0-8	Fine sandy loam*	SC-SM*, SC, SM, CL-ML, CL	A-4*, A-2-4	0	0	100	98-100	80-100	25-50	15-25	NP-10
	8-14	Fine sandy loam*, sandy loam, loam.	SC*, CL, ML, SM, SC-SM, CL-ML	A-4*, A-2-4, A-6, A-2-6	0	0	100	98-100	70-100	15-80	15-25	NP-15
	14-35	Sandy clay loam*, loam, clay loam.	SC*, CL, CL-ML, SC-SM	A-6*, A-4	0	0	100	98-100	80-100	35-80	20-40	5-24
	35-45	Fine sandy loam*, sandy loam, sandy clay loam, clay loam.	SC-SM*, CL, ML, SC, SM, CL-ML	A-4*, A-2-4	0	0	100	98-100	65-85	25-55	15-25	NP-10
	45-55	Fine sandy loam*, sandy clay loam, clay loam.	SC-SM*, CL, ML, SC, SM, CL-ML	A-4*, A-2-4	0	0	100	98-100	65-85	25-55	15-25	NP-10
	55-80	Stratified fine sand to fine sandy loam*.	SM*, ML	A-4*, A-2-4	0	0	100	98-100	65-85	20-55	0-15	NP-3
BbhA:												
Bartle----------	0-8	Silt loam*-------	CL-ML*, ML	A-4*	0	0	100	100	90-100	80-95	18-24	3-7
	8-17	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-95	20-26	3-8
	17-30	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	95-100	85-95	24-38	7-14
	30-50	Silt loam*, silty clay loam.	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-100	85-95	24-38	7-14
	50-80	Silt loam*, loam, silty clay loam.	CL*, CL-ML	A-4*, A-6	0	0	100	100	85-100	60-95	24-38	7-14
BbiB:												
Bartle----------	0-8	Silt loam*-------	CL-ML*, ML	A-4*	0	0	100	100	90-100	80-95	18-24	3-7
	8-17	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-95	20-26	3-8
	17-30	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	95-100	85-95	24-38	7-14
	30-50	Silt loam*, silty clay loam.	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-100	85-95	24-38	7-14
	50-80	Silt loam*, loam, silty clay loam.	CL*, CL-ML	A-4*, A-6	0	0	100	100	85-100	60-95	24-38	7-14
Pekin----------	0-10	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-100	15-30	3-12
	10-24	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-100	75-100	24-38	5-18
	24-45	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-100	80-100	65-95	25-40	6-20
	45-80	Silt loam*, silty clay loam, loam, sandy loam.	CL*, ML, SC, SM	A-4*, A-2-4, A-2-6, A-6	0	0	90-100	85-100	50-100	25-95	15-38	3-18

Table 16.--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	
BcrAW:												
Beanblossom-----	0-5	Silt loam*-------	CL-ML*, ML	A-4*	0	0-2	90-100	85-100	70-100	50-90	18-30	2-10
	5-24	Silt loam*, very channery silt loam, loam, very channery loam.	CL-ML*, GC, GC-GM, ML	A-4*, A-2-4	0	0-35	40-95	35-90	30-90	20-80	16-30	3-10
	24-54	Stratified extremely channery loam to very channery silt loam to extremely channery silt loam*.	GC-GM*, GC, GM, GW-GM	A-2-4*, A-1, A-2-6, A-4	0	0-30	15-55	10-50	8-50	6-45	20-32	NP-12
	54-60	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---
BdhAH:												
Bellcreek-------	0-10	Silty clay loam*	CL*	A-6*, A-7-6	0	0	95-100	92-100	75-100	55-100	30-50	10-30
	10-48	Silty clay*, silty clay loam, clay loam, clay.	CL*, CH	A-7-6*, A-6	0	0	95-100	92-100	75-100	55-100	30-65	10-45
	48-64	Silty clay loam*, clay loam, silty clay, clay.	CL*, CH	A-7-6*, A-6	0	0	95-100	92-100	75-100	55-100	30-65	10-45
	64-80	Stratified loamy sand to clay loam*.	CL*, ML, SC, SM	A-6*, A-2-4, A-7-6	0	0	90-100	85-100	60-100	15-85	0-50	NP-30
BfbAH:												
Bellcreek-------	0-10	Silt loam*-------	CL*	A-6*	0	0	100	95-100	95-100	50-100	30-40	10-16
	10-48	Silty clay*, silty clay loam, clay loam, clay.	CL*, CH	A-7-6*, A-6	0	0	95-100	92-100	75-100	55-100	30-65	10-45
	48-64	Silty clay loam*, clay loam, silty clay, clay.	CL*, CH	A-7-6*, A-6	0	0	95-100	92-100	75-100	55-100	30-65	10-45
	64-80	Stratified loamy sand to clay loam*.	CL*, ML, SC, SM	A-6*, A-2-4, A-7-6	0	0	90-100	85-100	60-100	15-85	0-50	NP-30
BgeAW:												
Birds-----------	0-8	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	90-100	80-100	23-36	3-12
	8-43	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	90-100	80-100	23-36	3-12
	43-60	Stratified silt loam to loam*.	CL-ML*, ML, CL	A-4*, A-6	0	0	100	95-100	85-100	55-98	20-36	3-12
BlgC2:												
Blocher---------	0-6	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-100	80-90	23-40	3-15
	6-26	Silty clay loam*, silt loam, loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	80-100	65-90	24-48	5-27
	26-66	Clay*, clay loam.	CL*, CH	A-7-6*, A-6	0	0	90-100	85-95	75-95	60-75	30-53	11-33
	66-76	Clay loam*, clay.	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-95	60-75	25-50	11-30
	76-80	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0	0-2	95-100	90-95	75-90	55-70	19-40	4-20

Table 16.--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	
BlgC2:												
Cincinnati------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-95	23-40	3-15
	8-24	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-100	80-95	24-45	5-25
	24-74	Silt loam*, loam.	CL*	A-6*, A-4	0	0	98-100	95-100	85-95	55-85	24-44	8-25
	74-80	Clay loam*, loam.	CL*	A-6*, A-4, A-7-6	0	0-2	90-100	85-95	70-90	55-70	25-50	8-30
BlgC3:												
Blocher---------	0-5	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-100	80-90	24-40	3-15
	5-18	Silty clay loam*, silt loam, loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	80-100	65-90	24-48	5-27
	18-47	Clay*, clay loam.	CL*, CH	A-7-6*, A-6	0	0	90-100	85-95	75-95	60-75	30-53	11-33
	47-64	Clay loam*, clay.	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-95	60-75	25-50	11-30
	64-80	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0	0-2	95-100	90-95	75-90	55-70	19-40	4-20
Cincinnati------	0-5	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-95	23-40	3-15
	5-14	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-100	80-95	24-45	5-25
	14-35	Silt loam*, loam.	CL*	A-6*, A-4	0	0	98-100	95-100	85-95	55-85	24-40	8-24
	35-78	Clay loam*, loam.	CL*	A-6*, A-4, A-7-6	0	0-2	90-100	85-95	70-90	55-70	25-50	5-30
	78-84	Loam*, clay loam.	CL*, CL-ML	A-4*, A-6	0	0-2	95-100	90-95	75-90	55-70	19-40	4-20
BlhD2:												
Blocher---------	0-6	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-100	80-90	23-40	3-15
	6-22	Silty clay loam*, silt loam, loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	80-100	65-90	24-48	5-27
	22-66	Clay*, clay loam.	CL*, CH	A-7-6*, A-6	0	0	90-100	85-95	75-95	60-75	30-53	11-33
	66-76	Clay loam*, clay.	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-95	60-75	25-50	11-30
	76-80	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0	0-2	95-100	90-95	75-90	55-70	19-40	4-20
Bonnell---------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	85-100	65-90	24-34	3-12
	6-9	Silt loam*, loam, silty clay loam.	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	98-100	95-100	85-100	60-90	25-50	6-28
	9-44	Clay*, clay loam.	CL*, CH	A-7-6*	0-1	0-2	95-100	90-95	80-95	65-90	30-54	20-33
	44-70	Clay loam*, loam.	CL*	A-6*, A-7-6	0-1	0-2	95-100	90-95	75-95	55-75	35-45	15-25
	70-80	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0	0-1	90-100	85-95	70-95	50-65	20-43	4-20
BluC:												
Bloomfield------	0-9	Loamy sand*------	SM*	A-2-4*	0	0	100	100	70-90	15-30	0-14	NP
	9-33	Fine sand*, loamy sand, loamy fine sand, sand.	SM*	A-2-4*, A-3	0	0	100	100	70-100	5-35	0-14	NP
	33-72	Fine sand*, sandy loam, loamy sand, loamy fine sand, sand.	SM*, SP-SM	A-2-4*, A-3	0	0	100	100	70-100	5-35	0-20	NP-3
	72-80	Fine sand*, loamy fine sand, sand.	SM*, SP-SM	A-2-4*, A-3	0	0	100	100	70-100	5-35	0-20	NP-3

Table 16.--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	
BluC:												
Alvin----------	0-7	Loamy sand*------	SM*	A-2-4*	0	0	100	100	70-90	15-30	0-14	NP
	7-10	Fine sandy loam*, loamy fine sand, loamy sand.	SM*, SC-SM	A-2-4*, A-4	0	0	100	100	70-100	15-45	0-25	NP-7
	10-40	Fine sandy loam*, sandy loam, sandy clay loam, loam.	SC*, ML, SM, SC-SM, CL	A-2-4*, A-4, A-2-6, A-6	0	0	100	100	70-100	20-50	15-32	NP-13
	40-70	Loamy sand*, sandy loam, fine sandy loam, fine sand.	SM*, SC, SC-SM	A-2-4*, A-2	0	0	100	100	70-100	15-45	0-25	NP-9
	70-80	Fine sand*, loamy fine sand, sand, sandy loam.	SM*, SP-SM, SW-SM	A-2-4*, A-3	0	0	100	100	50-90	5-20	0-20	NP-4
BnuD3:												
Bonnell---------	0-3	Clay loam*-------	CL*	A-6*, A-7-6	0	0-2	98-100	95-100	80-95	60-80	32-44	12-22
	3-32	Clay*, clay loam.	CL*, CH	A-7-6*	0	0-2	95-100	90-95	80-95	65-90	30-54	20-33
	32-54	Clay loam*, loam.	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-95	55-75	35-45	15-25
	54-80	Loam*, clay loam.	CL, CL-ML	A-6*, A-4, A-7-6	0	0-2	90-100	85-95	70-95	50-65	20-43	4-20
Hickory---------	0-4	Clay loam*-------	CL*	A-6*, A-7-6	0	0-2	95-100	90-98	80-95	60-75	32-44	12-22
	4-38	Clay loam*, loam.	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-100	70-95	50-80	24-50	8-30
	38-44	Loam*, clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0-1	0-5	90-100	80-95	70-95	45-75	20-40	5-20
	44-60	Loam*, clay loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-2, A-6	0-1	0-5	90-100	80-95	50-95	30-75	20-40	5-20
Blocher---------	0-4	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-100	80-90	24-40	3-15
	4-18	Silty clay loam*, silt loam, loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	80-100	65-90	24-48	5-27
	18-47	Clay*, clay loam.	CL*, CH	A-7-6*, A-6	0	0	90-100	85-95	75-95	60-75	30-53	11-33
	47-64	Clay loam*, clay.	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-95	60-75	25-50	11-30
	64-80	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0	0-2	95-100	90-95	75-90	55-70	19-40	4-20
BobE5:												
Bonnell, gullied	0-3	Clay loam*-------	CL*	A-6*, A-7-6	0	0-2	98-100	95-100	80-95	65-80	32-44	12-22
	3-25	Clay*, clay loam.	CL*, CH	A-7-6*	0	0-2	95-100	90-95	80-95	65-90	30-54	20-33
	25-38	Clay loam*, loam.	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-95	55-75	35-45	15-25
	38-60	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0-2	90-100	85-95	70-95	50-65	20-43	4-20
Hickory, gullied	0-3	Clay loam*-------	CL*	A-6*, A-7-6	0	0-2	95-100	90-98	80-95	60-75	32-44	12-22
	3-35	Clay loam*, loam.	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-100	70-95	50-80	24-50	8-30
	35-40	Loam*, clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0-1	0-5	90-100	80-95	70-95	45-75	20-40	5-20
	40-60	Loam*, clay loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-2, A-6	0-1	0-5	90-100	80-95	50-95	30-75	20-40	5-20
BodAV:												
Bonnie----------	0-20	Silt loam*-------	CL*	A-6*, A-4	0	0	100	100	95-100	90-100	27-34	8-12
	20-31	Silt loam*-------	CL*	A-6*, A-4	0	0	100	100	95-100	90-100	27-34	8-12
	31-60	Silt loam*, silty clay loam.	CL*	A-6*, A-4	0	0	100	100	90-100	80-100	25-39	8-15

Table 16.--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	
CldB2:												
Cincinnati------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-95	23-40	3-15
	8-31	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-100	80-95	24-45	5-25
	31-72	Silt loam*, loam.	CL*	A-6*, A-4	0	0	98-100	95-100	85-95	55-85	24-44	8-25
	72-80	Clay loam*, loam.	CL*	A-6*, A-4, A-7-6	0	0-2	90-100	85-95	70-90	55-70	25-50	8-30
Blocher---------	0-7	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-100	80-90	23-40	3-15
	7-32	Silty clay loam*, silt loam, loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	80-100	65-90	24-48	5-27
	32-66	Clay*, clay loam.	CL*, CH	A-7-6*, A-6	0	0	90-100	85-95	75-95	60-75	30-53	11-33
	66-76	Clay loam*, clay.	CL*	A-6*, A-7-6	0	0-2	95-100	90-95	75-95	60-75	25-50	11-30
	76-80	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0	0-2	95-100	90-95	75-90	55-70	19-40	4-20
ClfA:												
Cobbsfork-------	0-12	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-90	23-40	3-15
	12-18	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-90	23-40	3-16
	18-38	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	80-90	25-45	5-20
	38-50	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-100	80-90	25-45	5-20
	50-85	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	95-100	90-100	75-90	25-40	5-20
	85-90	Clay loam*-------	CL*	A-6*, A-7-6	0	0	90-100	85-95	70-90	55-70	28-50	10-30
CmbAW:												
Cohoctah--------	0-15	Loam*----------	ML*, CL-ML	A-4*, A-6	0	0	100	100	85-100	55-75	20-40	1-14
	15-39	Fine sandy loam*, loam, sandy loam.	SC-SM*, CL, ML, SM	A-4*, A-2-4, A-6	0	0	100	100	85-100	25-80	15-40	NP-15
	39-70	Stratified sandy loam to loam to loamy fine sand*.	SC-SM*, CL-ML, ML, SM	A-4*, A-2-4	0	0	85-100	80-100	45-100	20-80	0-30	NP-8
CmzA:												
Cliftycreek-----	0-10	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	95-100	90-100	80-100	75-90	23-32	6-13
	10-14	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-98	85-98	75-90	25-43	6-21
	14-56	Clay loam*, silty clay loam.	CL*, CH	A-7-6*	0	0	92-100	90-100	85-95	70-90	44-53	22-29
	56-64	Silty clay*, silty clay loam, clay.	CH*, CL	A-7-6*	0	0-5	95-100	90-100	85-100	80-95	48-66	25-39
	64-70	Silty clay*, clay, silty clay loam.	CH*, CL	A-7-6*	0	0-5	95-100	90-100	80-100	80-95	48-66	25-39
	70-80	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---

Table 16.--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	
CmzB2:												
Cliftycreek-----	0-8	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	95-100	90-100	80-100	75-90	23-32	6-13
	8-14	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-98	85-98	75-90	25-43	6-21
	14-56	Clay loam*, silty clay loam.	CL*, CH	A-7-6*	0	0	92-100	90-100	85-95	70-90	44-53	22-29
	56-64	Silty clay*, silty clay loam, clay.	CH*, CL	A-7-6*	0	0-5	95-100	90-100	85-100	80-95	48-66	25-39
	64-70	Silty clay*, clay, silty clay loam.	CH*, CL	A-7-6*	0	0-5	95-100	90-100	80-100	80-95	48-66	25-39
	70-80	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---
CmzC2:												
Cliftycreek-----	0-7	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	95-100	90-100	80-100	75-90	23-32	6-13
	7-14	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-98	85-98	75-90	25-43	6-21
	14-56	Clay loam*, silty clay loam.	CL*, CH	A-7-6*	0	0	92-100	90-100	85-95	70-90	44-53	22-29
	56-64	Silty clay*, silty clay loam, clay.	CH*, CL	A-7-6*	0	0-5	95-100	90-100	85-100	80-95	48-66	25-39
	64-70	Silty clay*, clay, silty clay loam.	CH*, CL	A-7-6*	0	0-5	95-100	90-100	80-100	80-95	48-66	25-39
	70-80	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---
ColD2:												
Coolville-------	0-5	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-100	85-100	24-40	3-15
	5-18	Silty clay loam*	CL*	A-7*, A-6	0	0	95-100	95-100	90-100	85-100	35-50	15-25
	18-39	Silty clay*, silty clay loam.	CH*, CL, ML	A-7*	0	0-5	95-100	85-100	80-100	75-100	41-65	13-36
	39-45	Parachannery silty clay loam*, parachannery silty clay, very parachannery silty clay, extremely parachannery silty clay loam.	CL*, CH, ML	A-7*	0	0-5	95-100	85-100	80-100	75-100	41-65	13-36
	45-60	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---

Table 16.--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	
ColD2:												
Rarden----------	0-6	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-100	85-100	24-40	3-15
	6-28	Silty clay*, clay, silty clay loam.	CH*, ML	A-7*	0-2	0-5	95-100	90-100	85-100	85-100	41-70	13-45
	28-37	Extremely parachannery silty clay*, parachannery silty clay, extremely parachannery silty clay loam, parachannery silty clay loam.	CH*, CL, ML	A-7*	0-2	0-5	95-100	90-100	85-100	85-95	41-65	13-36
	37-60	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---
Stonehead-------	0-5	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	90-100	23-40	3-15
	5-30	Silty clay loam*, silt loam.	CL*	A-6*, A-7-6	0	0	100	100	95-100	90-100	30-50	12-32
	30-46	Silty clay*, parachannery silty clay, parachannery silty clay loam, clay.	CH*, CL	A-7*	0	0-5	90-100	90-100	85-100	80-95	42-62	16-36
	46-65	Very parachannery silty clay loam*, extremely parachannery silty clay loam, parachannery silty clay loam.	CL*	A-6*, A-7	0	0-5	90-100	90-100	85-100	80-95	32-42	12-22
	65-80	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---
ConC3:												
Coolville-------	0-4	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-100	85-100	24-40	3-15
	4-17	Silty clay loam*	CL*	A-7*, A-6	0	0	95-100	95-100	90-100	85-100	35-50	15-25
	17-38	Silty clay*, silty clay loam.	CH*, CL, ML	A-7*	0	0-5	95-100	85-100	80-100	75-100	41-65	13-36
	38-43	Parachannery silty clay loam*, parachannery silty clay, very parachannery silty clay, extremely parachannery silty clay loam.	CL*, CH, ML	A-7*	0	0-5	95-100	85-100	80-100	75-100	41-65	13-36
	43-60	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---

Table 16.--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	
ConC3:												
Rarden----------	0-6	Silty clay loam*	CL*	A-6*, A-7	0	0	100	95-100	95-100	85-100	30-50	12-30
	6-28	Silty clay*, clay, silty clay loam.	CH*, ML	A-7*	0-2	0-5	95-100	90-100	85-100	85-100	41-70	13-45
	28-37	Extremely parachannery silty clay*, parachannery silty clay, extremely parachannery silty clay loam, parachannery silty clay loam.	CH*, CL, ML	A-7*	0-2	0-5	95-100	90-100	85-100	85-95	41-65	13-36
	37-60	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---
CudA:												
Crosby----------	0-8	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	92-100	80-95	60-85	15-40	3-15
	8-11	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	92-100	80-95	60-85	15-40	3-15
	11-14	Silt loam*, silty clay loam.	CL*, CL-ML, ML	A-6*, A-4	0	0	95-100	92-100	80-95	60-85	20-40	3-20
	14-28	Clay loam*, silty clay loam, silty clay, clay.	CL*, CH	A-7-6*, A-6	0-1	0-3	90-100	85-100	75-95	55-90	30-60	10-35
	28-36	Loam*, fine sandy loam, clay loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-3	85-100	80-98	65-90	40-70	15-35	3-20
	36-80	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-3	85-100	80-98	65-90	40-70	15-30	3-15
CulB:												
Crosby----------	0-8	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	92-100	80-95	60-85	15-40	3-15
	8-11	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	92-100	80-95	60-85	15-40	3-15
	11-14	Silt loam*, silty clay loam.	CL*, CL-ML, ML	A-6*, A-4	0	0	95-100	92-100	80-95	60-85	20-40	3-20
	14-28	Clay loam*, silty clay loam, silty clay, clay.	CL*, CH	A-7-6*, A-6	0-1	0-3	90-100	85-100	75-95	55-90	30-60	10-35
	28-36	Loam*, fine sandy loam, clay loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-3	85-100	80-98	65-90	40-70	15-35	3-20
	36-80	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-3	85-100	80-98	65-90	40-70	15-30	3-15
Williamstown----	0-9	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	98-100	95-100	80-98	75-90	22-35	3-12
	9-33	Clay loam*, silty clay loam.	CL*	A-7-6*, A-6, A-7	0	0-3	95-100	85-98	70-90	55-75	35-48	15-30
	33-37	Loam*, fine sandy loam.	CL*, CL-ML	A-6*, A-4	0	0-3	85-98	75-90	70-90	50-70	20-34	7-16
	37-80	Loam*, fine sandy loam.	CL*, CL-ML, SC, SC-SM, ML	A-4*, A-6	0-1	0-3	85-98	75-90	65-80	40-60	15-30	3-15

Table 16.--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	
CxdA:												
Cyclone---------	0-17	Silty clay loam*	CL*	A-6*	0	0	100	100	90-100	75-95	25-40	15-20
	17-52	Silty clay loam*, silt loam.	CL*	A-7-6*, A-6	0	0	100	100	90-100	80-95	35-55	15-40
	52-58	Silty clay loam*, loam, silt loam, clay loam.	CL*	A-7-6*, A-6	0	0	92-100	85-100	85-100	80-90	30-55	11-40
	58-65	Loam*----------	CL*, CL-ML	A-6*, A-4	0	0-1	91-100	85-100	75-95	55-70	20-40	5-20
	65-80	Loam*, fine sandy loam.	CL*, CL-ML, ML, SC	A-4*, A-6	0-1	0-3	90-100	85-98	75-90	40-70	15-30	3-15
DbqE:												
Deam, very deep-	0-11	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0-5	95-100	90-100	75-100	55-90	24-40	3-15
	11-20	Silty clay loam*, silt loam.	CL*, CL-ML, ML	A-4*, A-6	0	0-5	90-100	90-100	75-100	55-95	24-40	3-15
	20-90	Silty clay*, silty clay loam.	CL*, CH	A-7*	0	0-5	85-100	85-100	85-100	80-100	40-52	17-28
EcyAH:												
Eel----------	0-8	Loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-100	70-100	25-40	5-15
	8-34	Loam*, silt loam, clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	85-100	55-85	20-50	5-30
	34-60	Loam*, sandy loam, fine sandy loam, silt loam, clay loam, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	95-100	90-100	80-100	55-85	20-50	5-30
	60-80	Stratified sand to silty clay loam to loamy fine sand*.	CL*, ML, SC, SM	A-4*, A-2-4, A-6, A-7-6	0	0	90-100	80-100	75-100	30-85	0-50	NP-25
EcyAW:												
Eel----------	0-8	Loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-100	70-100	25-40	5-15
	8-34	Loam*, silt loam, clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	85-100	55-85	20-50	5-30
	34-60	Loam*, sandy loam, fine sandy loam, silt loam, clay loam, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	95-100	90-100	80-100	55-85	20-50	5-30
	60-80	Stratified sand to silty clay loam to loamy fine sand*.	CL*, ML, SC, SM	A-4*, A-2-4, A-6, A-7-6	0	0	90-100	80-100	75-100	30-85	0-50	NP-25
EdeAW:												
Eel----------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	85-100	20-30	3-10
	8-34	Loam*, silt loam, clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	85-100	55-85	20-50	5-30
	34-60	Stratified silt loam to sandy loam to loam*.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	95-100	90-100	80-100	55-85	20-50	5-30
	60-80	Stratified loamy sand to sandy loam to fine sandy loam to loam to loamy fine sand*.	CL*, ML, SC, SM	A-4*, A-2-4, A-6, A-7-6	0	0	90-100	80-100	75-100	30-85	0-50	NP-25

Table 16.--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	
EepAQ:												
Elkinsville-----	0-9	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-95	22-40	2-15
	9-24	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-95	25-50	5-28
	24-58	Loam*, clay loam, sandy clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	95-100	90-100	70-100	35-80	24-38	7-14
	58-68	Loam*, sandy loam, clay loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-2-4, A-2-6, A-6	0	0	95-100	90-100	55-100	25-80	22-35	5-12
	68-80	Loam*, fine sandy loam, sandy loam.	SC-SM*, CL, CL-ML, SC	A-4*, A-2-4	0	0	85-100	80-100	50-95	25-75	20-30	4-10
FdbA:												
Fincastle-------	0-10	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	98-100	90-100	75-94	20-35	4-14
	10-13	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	98-100	90-100	75-94	20-35	4-14
	13-27	Silty clay loam*, silt loam.	CL*, CH	A-7-6*, A-6, A-7	0	0	100	98-100	90-100	75-94	35-55	15-35
	27-50	Clay loam*, loam.	CL*	A-6*, A-7	0	0-2	92-100	85-100	80-95	55-80	30-50	10-30
	50-59	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0	0-2	90-100	85-100	65-95	45-80	20-50	3-30
	59-80	Loam*, fine sandy loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-6	0-1	0-5	90-100	80-95	65-90	45-70	15-30	3-15
FdqB:												
Fincastle-------	0-10	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	98-100	90-100	75-94	20-35	4-14
	10-13	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	98-100	90-100	75-94	20-35	4-14
	13-27	Silty clay loam*, silt loam.	CL*, CH	A-7-6*, A-6, A-7	0	0	100	98-100	90-100	75-94	35-55	15-35
	27-50	Clay loam*, loam.	CL*	A-6*, A-7	0	0-2	92-100	85-100	80-95	55-80	30-50	10-30
	50-59	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0	0-2	90-100	85-100	65-95	45-80	20-50	3-30
	59-80	Loam*, fine sandy loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-6	0-1	0-5	90-100	80-95	65-90	45-70	15-30	3-15
Xenia-----------	0-8	Silt loam*-------	CL-ML*, CL	A-4*	0	0	100	100	95-100	75-95	20-30	4-10
	8-30	Silty clay loam*	CL*, CL-ML	A-6*, A-4, A-7	0	0	100	100	95-100	75-95	25-45	5-25
	30-50	Clay loam*, loam.	CL*	A-6*, A-7	0	0-1	95-100	90-95	75-95	60-80	30-50	10-30
	50-58	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0	0-2	90-100	90-95	75-95	55-80	20-50	3-30
	58-80	Loam*, fine sandy loam.	CL*, CL-ML	A-4*, A-6	0	0-1	90-100	90-95	75-90	45-70	15-30	3-15
FexA:												
Fox----------	0-8	Loam*----------	CL*, CL-ML	A-4*, A-6	0	0	90-100	90-98	75-85	50-65	23-35	5-15
	8-22	Clay loam*, sandy clay loam.	CL*	A-6*, A-7	0	0	85-100	75-98	55-95	50-75	30-50	10-25
	22-33	Gravelly clay loam*, gravelly sandy clay loam, gravelly loam.	SC*, CL	A-6*, A-2-6, A-2-7, A-7	0	0-5	55-95	50-74	40-70	20-60	30-45	10-22
	33-60	Stratified coarse sand to very gravelly sand*.	SW-SM*, SW	A-1-a*	0-1	0-10	50-85	30-65	7-30	2-10	0-0	NP

Table 16.--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	
FexAQ:												
Fox----------	0-8	Loam*----------	CL*, CL-ML	A-4*, A-6	0	0	90-100	90-98	75-85	50-65	23-35	5-15
	8-22	Clay loam*, sandy clay loam.	CL*	A-6*, A-7	0	0	85-100	75-98	55-95	50-75	30-50	10-25
	22-33	Gravelly clay loam*, gravelly sandy clay loam, gravelly loam.	SC*, CL	A-6*, A-2-6, A-2-7, A-7	0	0-5	55-95	50-74	40-70	20-60	30-45	10-22
	33-60	Stratified coarse sand to very gravelly sand*.	SW-SM*, SW	A-1-a*	0-1	0-10	50-85	30-65	7-30	2-10	0-0	NP
FexB2:												
Fox----------	0-7	Loam*----------	CL*, CL-ML	A-4*, A-6	0	0	90-100	90-98	75-85	50-65	23-35	5-15
	7-22	Clay loam*, sandy clay loam.	CL*	A-6*, A-7	0	0	85-100	75-98	55-95	50-75	30-50	10-25
	22-33	Gravelly clay loam*, gravelly sandy clay loam, gravelly loam.	SC*, CL	A-6*, A-2-6, A-2-7, A-7	0	0-5	55-95	50-74	40-70	20-60	30-45	10-22
	33-60	Stratified coarse sand to very gravelly sand*.	SW-SM*, SW	A-1-a*	0-1	0-10	50-85	30-65	7-30	2-10	0-0	NP
FgqC3:												
Fox----------	0-6	Sandy loam*------	SC-SM*, SC, SM	A-4*, A-2-4	0	0	80-100	75-98	60-80	25-45	15-25	NP-10
	6-22	Clay loam*, sandy clay loam.	CL*	A-6*, A-7	0	0	85-100	75-98	55-95	50-75	30-50	10-25
	22-33	Gravelly clay loam*, gravelly sandy clay loam, gravelly loam.	SC*, CL	A-6*, A-2-6, A-2-7, A-7	0	0-5	55-95	50-74	40-70	20-60	30-45	10-22
	33-60	Stratified coarse sand to very gravelly sand*.	SW-SM*, SW	A-1-a*	0-1	0-10	50-85	30-65	7-30	2-10	0-0	NP
Casco----------	0-4	Sandy loam*------	SC-SM*, SC, SM	A-2-4*, A-4	0	0	80-100	75-98	60-80	25-45	15-25	NP-10
	4-12	Gravelly sandy clay loam*, sandy clay loam, gravelly loam, gravelly clay loam, clay loam, loam.	CL*	A-6*, A-7	0	0-5	85-100	75-98	40-95	25-75	30-50	10-25
	12-16	Very gravelly loam*, sandy clay, gravelly clay loam, gravelly sandy clay loam, very gravelly clay loam.	SC*, CL	A-2-6*, A-2-7, A-6, A-7	0-1	0-5	55-95	50-74	40-70	20-60	30-45	10-22
	16-60	Stratified very gravelly coarse sand to sand*.	SW-SM*, SW	A-1-a*	0-1	0-10	50-85	30-65	7-30	2-10	0-0	NP

Table 16.--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	
GccAH:												
Genesee---------	0-10	Loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-100	55-80	25-40	5-15
	10-32	Loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	85-100	60-90	23-30	7-11
	32-56	Sandy loam*, loam.	CL-ML*, CL, ML	A-4*, A-2-4, A-6	0	0	85-100	85-100	60-100	25-100	10-35	NP-12
	56-60	Stratified sand to loamy sand to sandy loam to silt loam*.	ML*, CL, CL-ML	A-4*, A-2-4, A-6	0	0-3	95-100	85-100	60-100	25-100	10-35	NP-12
GccAW:												
Genesee---------	0-10	Loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-100	55-80	25-40	5-15
	10-32	Loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	85-100	60-90	23-30	7-11
	32-56	Sandy loam*, loam.	CL-ML*, CL, ML	A-4*, A-2-4, A-6	0	0	85-100	85-100	60-100	25-100	10-35	NP-12
	56-60	Stratified sand to loamy sand to sandy loam to silt loam*.	ML*, CL, CL-ML	A-4*, A-2-4, A-6	0	0-3	95-100	85-100	60-100	25-100	10-35	NP-12
GcpAW:												
Genesee---------	0-10	Loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-100	55-80	25-40	5-15
	10-32	Loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	85-100	60-90	23-30	7-11
	32-56	Sandy loam*, loam.	CL-ML*, CL, ML	A-4*, A-2-4, A-6	0	0	85-100	85-100	60-100	25-100	10-35	NP-12
	56-60	Stratified sand to loamy sand to sandy loam to silt loam*.	ML*, CL, CL-ML	A-4*, A-2-4, A-6	0	0-3	95-100	85-100	60-100	25-100	10-35	NP-12
GgbG:												
Gilwood---------	0-6	Silt loam*, channery silt loam.	CL-ML*, CL, ML, GC-GM, GM	A-4*	0	0-5	60-100	55-100	50-100	40-95	18-25	3-8
	6-11	Channery silt loam*, silt loam.	CL-ML*, CL, GC-GM, GC	A-4*	0	0-10	60-100	55-95	50-95	40-95	22-28	5-9
	11-22	Channery silt loam*.	CL*, CL-ML, GC, GC-GM	A-4*, A-6	0-5	0-10	60-80	55-75	50-75	40-75	24-32	6-12
	22-32	Extremely channery silt loam*, very channery silt loam.	GC-GM*, CL-ML, GC, GM, ML	A-2-4*, A-1-B, A-4	0-10	10-40	35-65	30-55	25-55	15-55	18-30	3-10
	32-60	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---
Brownstown------	0-6	Silt loam*, channery silt loam.	ML*, CL-ML, GC-GM, GM	A-4*, A-2-4	0	0-10	55-100	50-100	45-100	34-95	0-25	NP-7
	6-18	Channery silt loam*, very channery silt loam, extremely channery silt loam.	GM*, CL-ML, GC-GM, ML	A-4*, A-2-4	0-10	10-50	40-80	35-75	30-75	25-70	0-25	NP-7
	18-36	Extremely channery silt loam*, very flaggy silt loam.	GM*, GC-GM	A-2-4*, A-1, A-4	0-30	30-55	30-60	25-55	25-55	15-45	0-25	NP-7
	36-60	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---

Table 16.--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	
GgfD2:												
Gilwood---------	0-5	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0-5	90-100	85-100	80-100	70-100	18-25	3-8
	5-11	Channery silt loam*, silt loam.	CL-ML*, CL, GC-GM, GC	A-4*	0	0-10	60-100	55-95	50-95	40-95	22-28	5-9
	11-22	Channery silt loam*.	CL*, CL-ML, GC, GC-GM	A-4*, A-6	0-5	0-10	60-80	55-75	50-75	40-75	24-32	6-12
	22-32	Extremely channery silt loam*, very channery silt loam.	GC-GM*, CL-ML, GC, GM, ML	A-2-4*, A-1-B, A-4	0-10	10-40	35-65	30-55	25-55	15-55	18-30	3-10
	32-60	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---
Wrays----------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	90-100	22-35	2-12
	6-25	Silty clay loam*, silt loam.	CL*	A-6*, A-7-6	0	0	100	100	95-100	90-100	30-50	12-30
	25-34	Silty clay loam*, channery silty clay loam, silt loam, channery silt loam.	CL*, GC	A-6*, A-4, A-7-6	0	0-10	65-100	60-95	55-95	45-90	30-44	8-20
	34-44	Extremely channery silt loam*, extremely channery silty clay loam, channery silt loam, channery silty clay loam.	GC*, CL, GM, ML	A-2-4*, A-2-6, A-4, A-6	0-10	10-40	35-85	30-80	25-80	15-75	18-38	3-14
	44-60	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---
HcgAW:												
Haymond---------	0-9	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	85-100	20-30	3-10
	9-44	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-100	20-30	3-10
	44-60	Stratified silt loam to fine sandy loam to sandy loam to loam*.	CL-ML*, CL, ML, SC, SM	A-4*, A-6	0	0	95-100	90-100	65-100	35-90	15-35	2-15
HctAW:												
Haymond---------	0-9	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	85-100	20-30	3-10
	9-44	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-100	20-30	3-10
	44-60	Stratified silt loam to fine sandy loam to sandy loam to loam*.	CL-ML*, CL, ML, SC, SM	A-4*, A-6	0	0	95-100	90-100	65-100	35-90	15-35	2-15

Table 16.--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	
HctAW:												
Wirt----------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	85-100	20-30	3-10
	8-38	Loam*, sandy loam, silt loam.	CL-ML*, CL, ML, SC, SM	A-4*, A-2-4	0	0	95-100	80-100	50-100	25-85	15-30	2-10
	38-60	Stratified loam to gravelly sandy loam to loamy sand*.	SM*, CL-ML, ML, SC-SM	A-2-4*, A-1-B, A-4	0	0-2	80-100	50-100	30-95	15-75	0-24	NP-7
HeoF:												
Hickory---------	0-7	Silt loam*, loam.	CL*, CL-ML, ML	A-4*, A-6	0	0-5	95-100	90-100	75-100	55-90	24-40	3-15
	7-38	Clay loam*, loam.	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-100	70-95	50-80	24-50	8-30
	38-44	Loam*, clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0-1	0-5	90-100	80-95	70-95	45-75	20-40	5-20
	44-60	Loam*, clay loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-2, A-6	0-1	0-5	90-100	80-95	50-95	30-75	20-40	5-20
HleAW:												
Holton----------	0-14	Silt loam*, loam.	CL-ML*, CL, ML	A-4*	0	0	100	100	80-100	55-90	14-28	2-10
	14-41	Fine sandy loam*, loam, sandy loam, silt loam.	CL-ML*, CL, ML, SC-SM, SM	A-4*, A-2-4	0	0	90-100	85-100	50-100	30-90	14-28	2-10
	41-60	Stratified fine sandy loam to loam to loamy sand to sandy clay loam*.	SM*, CL, ML, SC, SC-SM	A-2-4*, A-2-6, A-4, A-6	0	0-5	80-100	75-100	45-95	20-75	14-36	2-15
KugG:												
Kurtz----------	0-6	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	90-100	90-100	85-100	75-100	20-35	3-12
	6-36	Silty clay loam*, silt loam, parachannery silty clay loam, parachannery silt loam.	CL*	A-6*, A-4, A-7	0	0-3	90-100	90-99	85-99	75-99	30-50	8-25
	36-47	Extremely parachannery silty clay loam*, very parachannery silty clay loam, extremely parachannery silt loam, very parachannery silt loam.	CL*	A-6*, A-4, A-7	0-1	0-3	90-100	90-99	85-99	75-99	30-46	8-23
	47-60	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---

Table 16.--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	
KugG:												
Gnawbone--------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	95-100	90-100	90-100	80-95	16-25	2-8
	7-27	Parachannery silty clay loam*, parachannery silt loam, silty clay loam, silt loam.	CL*	A-6*, A-4, A-7	0	0-3	85-100	80-100	80-100	70-95	30-44	8-20
	27-39	Extremely parachannery silt loam*, very parachannery silt loam, parachannery silty clay loam, very parachannery silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7	0-1	0-5	85-100	80-100	80-100	70-95	20-42	7-18
	39-60	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---
LeaA:												
Lauer----------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-38	1-17
	8-45	Silty clay loam*, silt loam.	CL*, CL-ML, ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	85-100	23-50	2-29
	45-71	Silty clay*, silty clay loam.	CH*, CL	A-7-6*	0	0	100	100	95-100	80-100	41-62	16-35
	71-80	Stratified silty clay to silty clay loam to silt loam*.	CL*, CH, CL-ML, ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	80-100	23-54	2-32
MecAQ:												
Martinsville----	0-14	Loam*----------	CL*	A-4*, A-6	0	0	95-100	90-100	85-100	60-85	20-40	NP-20
	14-30	Sandy clay loam*, clay loam, loam, silt loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	90-100	90-100	80-95	40-80	25-45	5-30
	30-66	Silt loam*, sandy clay loam, fine sandy loam, loam.	SC*, CL, CL-ML, SC-SM, SM	A-6*, A-2-4, A-2-6, A-4	0	0	80-100	75-100	60-95	25-65	15-40	3-30
	66-80	Stratified sandy loam to fine sandy loam to loam to silt loam*.	ML*, CL-ML, SC, SC-SM	A-4*	0-1	0-3	90-100	85-98	65-90	40-70	15-30	NP-10
MecB:												
Martinsville----	0-8	Loam*----------	CL*	A-4*, A-6	0	0	95-100	90-100	85-100	60-85	20-40	NP-20
	8-17	Sandy clay loam*, clay loam, loam, silt loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0	90-100	90-100	80-95	40-80	25-45	5-30
	17-48	Silt loam*, sandy clay loam, fine sandy loam, loam.	SC*, CL, CL-ML, SC-SM, SM	A-6*, A-2-4, A-2-6, A-4	0	0	80-100	75-100	60-95	25-65	15-40	3-30
	48-80	Stratified sandy loam to fine sandy loam to loam to silt loam*.	ML*, CL-ML, SC, SC-SM	A-4*	0-1	0-3	90-100	85-98	65-90	40-70	15-30	NP-10

Table 16.--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	
MfwA:												
Martinsville, sandy substratum-----	0-11	Loam*----------	CL-ML*, CL, ML	A-4*	0	0	100	100	75-100	50-70	18-30	3-10
	11-14	Loam*----------	CL-ML*, CL, ML	A-4*	0	0	100	100	75-100	50-70	18-30	3-10
	14-39	Clay loam*, sandy clay loam.	CL*, SC	A-6*	0	0	92-100	85-100	75-95	40-75	30-40	11-18
	39-55	Sandy clay loam*, sandy loam, loam.	SC*, CL, CL-ML, SC-SM	A-6*, A-2-4, A-2-6, A-4	0	0	95-100	90-100	80-95	30-75	25-37	7-16
	55-72	Stratified sand to sandy loam to fine sandy loam to loam to silt loam*.	SC-SM*, CL-ML, ML, SM	A-4*, A-2-4, A-2-6, A-6	0	0	95-100	90-100	50-80	10-75	0-30	NP-11
	72-80	Stratified coarse sand to sand to loamy coarse sand*.	SW-SM*, SW	A-1-b*	0	0-10	75-100	75-100	7-45	2-15	0-0	NP
MfwAQ:												
Martinsville, sandy substratum-----	0-11	Loam*----------	CL-ML*, CL, ML	A-4*	0	0	100	100	75-100	50-70	18-30	3-10
	11-14	Loam*----------	CL-ML*, CL, ML	A-4*	0	0	100	100	75-100	50-70	18-30	3-10
	14-39	Clay loam*, sandy clay loam.	CL*, SC	A-6*	0	0	92-100	85-100	75-95	40-75	30-40	11-18
	39-55	Sandy clay loam*, sandy loam, loam.	SC*, CL-ML, CL, SC-SM	A-6*, A-2-4, A-2-6, A-4	0	0	95-100	90-100	80-95	30-75	25-37	7-16
	55-72	Stratified sand to sandy loam to fine sandy loam to loam to silt loam*.	SC-SM*, CL-ML, ML, SM	A-4*, A-2-4, A-2-6, A-6	0	0	95-100	90-100	50-80	10-75	0-30	NP-11
	72-80	Stratified coarse sand to sand to loamy coarse sand*.	SW-SM*, SW	A-1-b*	0	0-10	75-100	75-100	7-45	2-15	0-0	NP

Table 16.--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	
MfwB2:												
Martinsville, sandy substratum	0-8	Loam*----------	CL-ML*, CL, ML	A-4*	0	0	100	100	75-100	50-70	18-30	3-10
	8-14	Loam*----------	CL-ML*, CL, ML	A-4*	0	0	100	100	75-100	50-70	18-30	3-10
	14-39	Clay loam*, sandy clay loam.	CL*, SC	A-6*	0	0	92-100	85-100	75-95	40-75	30-40	11-18
	39-55	Sandy clay loam*, sandy loam, loam.	SC*, CL-ML, CL, SC-SM	A-6*, A-2-4, A-2-6, A-4	0	0	95-100	90-100	80-95	30-75	25-37	7-16
	55-72	Stratified sand to sandy loam to fine sandy loam to loam to silt loam*.	SC-SM*, CL-ML, ML, SM	A-4*, A-2-4, A-2-6, A-6	0	0	95-100	90-100	50-80	10-75	0-30	NP-11
	72-80	Stratified coarse sand to sand to loamy coarse sand*.	SW-SM*, SW	A-1-b*	0	0-10	75-100	75-100	7-45	2-15	0-0	NP
MfxA:												
Martinsville, sandy substratum-----	0-10	Sandy loam*------	SM*, SC-SM	A-2-4*, A-4	0	0	95-100	95-100	60-80	25-40	15-22	NP-7
	10-15	Sandy loam*------	SC-SM*, SM	A-2-4*, A-2	0	0	95-100	95-100	60-80	25-40	15-24	NP-7
	15-41	Sandy clay loam*, sandy loam.	SC*, CL, ML, SM	A-4*, A-2-4	0	0	95-100	90-100	60-95	25-55	17-38	2-16
	41-60	Sandy loam*, loamy sand.	SM*, SC, SC-SM	A-2-4*, A-4	0	0	95-100	90-100	45-80	10-40	0-25	NP-10
	60-80	Stratified gravelly coarse sand to coarse sand to loamy sand*.	SP-SM*, SP	A-1-b*	0	0	65-100	60-90	20-50	3-20	0-10	NP-2
MhuA:												
McGary----------	0-11	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-100	90-100	25-40	5-20
	11-42	Silty clay*, silty clay loam.	CH*, CL	A-7-6*	0	0	100	100	95-100	90-100	45-60	20-34
	42-50	Silty clay*, silty clay loam.	CH*, CL	A-7-6*	0	0	100	100	95-100	90-100	45-60	20-34
	50-60	Stratified silty clay loam to silty clay*.	CL*, CH	A-7-6*, A-6	0	0	100	100	95-100	90-100	38-60	15-34
MhyB:												
Medora----------	0-9	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	2-15
	9-32	Silty clay loam*, silt loam.	CL*	A-6*, A-7-6	0	0	100	100	95-100	85-100	32-50	12-30
	32-60	Loam*, silt loam, clay loam.	CL*, CL-ML	A-4*, A-6	0-2	0-5	85-100	80-100	70-95	51-80	18-40	4-20
	60-80	Sandy clay loam*, clay loam, gravelly sandy clay loam, sandy clay.	CL*, SC	A-6*, A-2-6, A-2-7, A-7	0-2	0-5	80-100	75-100	60-95	25-75	30-50	11-24

Table 16.--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	
MhyC2:												
Medora----------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	85-100	22-40	2-15
	6-26	Silty clay loam*, silt loam.	CL*	A-6*, A-7-6	0	0	100	100	95-100	85-100	32-50	12-30
	26-40	Loam*, silt loam, clay loam.	CL*, CL-ML	A-4*, A-6	0-2	0-5	85-100	80-100	70-95	51-80	18-40	4-20
	40-80	Sandy clay loam*, clay loam, gravelly sandy clay loam, sandy clay.	CL*, SC	A-6*, A-2-6, A-2-7, A-7	0-2	0-5	80-100	75-100	60-95	25-75	30-50	11-24
MjjAH:												
Medway----------	0-18	Silty clay loam*	CL*	A-6*	0	0	92-100	85-100	85-100	80-95	36-40	6-20
	18-48	Clay loam*, loam.	CL*	A-6*	0	0	95-100	85-100	70-95	50-80	34-40	14-20
	48-60	Stratified gravelly sandy loam to loam*.	CL*, CL-ML, SC, SC-SM	A-4*, A-2-4, A-2-6, A-6	0	0	75-100	50-100	50-95	25-75	23-38	6-18
MmoC3:												
Miami----------	0-6	Clay loam*-------	CL*	A-6*	0	0	95-100	92-100	75-95	60-85	30-40	10-22
	6-29	Clay loam*, silty clay loam.	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-100	75-95	55-85	30-50	11-31
	29-34	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-6*, A-4	0-1	0-5	90-98	85-98	65-95	40-70	15-37	3-22
	34-80	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-5	90-98	85-98	65-90	40-70	15-30	3-15
MmoD3:												
Miami----------	0-6	Clay loam*-------	CL*	A-6*	0	0	95-100	92-100	75-95	60-85	30-40	10-22
	6-29	Clay loam*, silty clay loam.	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-100	75-95	55-85	30-50	11-31
	29-34	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-6*, A-4	0-1	0-5	90-98	85-98	65-95	40-70	15-37	3-22
	34-80	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-5	90-98	85-98	65-90	40-70	15-30	3-15
MnpB2:												
Miami----------	0-8	Silt loam*-------	CL*, ML, CL-ML	A-4*, A-6	0	0	95-100	92-100	85-100	75-90	20-30	3-15
	8-13	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0-1	95-100	92-100	85-98	75-90	25-55	5-35
	13-31	Clay loam*, silty clay loam.	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-98	75-95	55-85	30-50	11-31
	31-36	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-6*, A-4	0-1	0-5	90-98	85-98	65-95	40-70	15-37	3-22
	36-80	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-5	90-98	85-98	65-90	40-70	15-30	3-15
MnpC2:												
Miami----------	0-7	Silt loam*-------	CL*, ML, CL-ML	A-4*, A-6	0	0	95-100	92-100	85-100	75-90	20-30	3-15
	7-13	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0-1	95-100	92-100	85-98	75-90	25-55	5-35
	13-31	Clay loam*, silty clay loam.	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-98	75-95	55-85	30-50	11-31
	31-36	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-6*, A-4	0-1	0-5	90-98	85-98	65-95	40-70	15-37	3-22
	36-80	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-5	90-98	85-98	65-90	40-70	15-30	3-15

Table 16.--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	
MnpD2:												
Miami----------	0-7	Silt loam*-------	CL*, ML, CL-ML	A-4*, A-6	0	0	95-100	92-100	85-100	75-90	20-30	3-15
	7-13	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0-1	95-100	92-100	85-98	75-90	25-55	5-35
	13-31	Clay loam*, silty clay loam.	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-98	75-95	55-85	30-50	11-31
	31-36	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-6*, A-4	0-1	0-5	90-98	85-98	65-95	40-70	15-37	3-22
	36-80	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-5	90-98	85-98	65-90	40-70	15-30	3-15
MqbA:												
Milton----------	0-9	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	92-100	92-100	90-100	75-90	23-32	6-13
	9-13	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	92-100	92-100	90-100	75-90	23-32	6-13
	13-29	Clay loam*, silty clay, clay.	CL*, CH	A-7-6*	0	0	90-100	80-100	75-95	70-90	44-53	22-29
	29-31	Silty clay*, clay loam, sandy clay, clay.	CH*, CL	A-7-6*	0	0-5	95-100	90-100	85-100	80-95	48-66	25-39
	31-80	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---
MqbB2:												
Milton----------	0-8	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	92-100	92-100	90-100	75-90	23-32	6-13
	8-13	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	92-100	92-100	90-100	75-90	23-32	6-13
	13-29	Clay loam*, silty clay, clay.	CL*, CH	A-7-6*	0	0	90-100	80-100	75-95	70-90	44-53	22-29
	29-31	Silty clay*, clay loam, sandy clay, clay.	CH*, CL	A-7-6*	0	0-5	95-100	90-100	85-100	80-95	48-66	25-39
	31-80	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---
MqbC2:												
Milton----------	0-7	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	92-100	92-100	90-100	75-90	23-32	6-13
	7-13	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	92-100	92-100	90-100	75-90	23-32	6-13
	13-29	Clay loam*, silty clay, clay.	CL*, CH	A-7-6*	0	0	90-100	80-100	75-95	70-90	44-53	22-29
	29-31	Silty clay*, clay loam, sandy clay, clay.	CH*, CL	A-7-6*	0	0-5	95-100	90-100	85-100	80-95	48-66	25-39
	31-80	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---
MrbF:												
Milton----------	0-6	Silt loam*-------	CL*	A-6*	1-5	1-5	85-95	85-95	75-95	70-90	30-40	11-19
	6-10	Silt loam*-------	CL*	A-6*	1-5	1-5	85-95	85-95	75-95	70-90	30-40	11-19
	10-23	Clay loam*-------	CL*	A-7-6*	0	0	98-100	95-100	85-95	70-90	39-48	18-25
	23-25	Clay*, silty clay.	CH*, CL	A-7-6*	1-5	1-5	85-98	85-98	80-95	70-90	48-66	25-39
	25-80	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---
Rock outcrop----	---	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---

Table 16.--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	
NaaB2:												
Nabb----------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-95	22-40	2-15
	7-13	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-95	22-40	2-15
	13-33	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	80-90	25-45	5-25
	33-71	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	98-100	95-100	90-95	70-85	25-45	5-20
	71-80	Clay loam*, loam.	CL*	A-6*, A-4, A-7-6	0-2	0-2	90-100	85-95	70-90	55-70	25-50	8-30
NpcA:												
Nineveh---------	0-10	Gravelly sandy loam*.	SC-SM*, SC	A-1-b*, A-2-4, A-2-6	0	0	70-90	40-75	30-50	10-30	10-32	2-13
	10-22	Gravelly sandy loam*, gravelly sandy clay loam.	SC*	A-2-4*, A-2-6	0	0-5	55-90	45-74	30-50	10-30	25-34	7-14
	22-24	Gravelly sandy loam*, gravelly sandy clay loam.	SC*	A-2-6*, A-2-4	0	0-5	65-85	58-75	30-50	10-30	25-34	7-14
	24-60	Stratified coarse sand to very gravelly loamy coarse sand*.	SW-SM*, SW	A-1-a*	0	0-10	60-75	32-65	7-30	2-10	0-0	NP
NpcAQ:												
Nineveh---------	0-10	Gravelly sandy loam*.	SC-SM*, SC	A-1-b*, A-2-4, A-2-6	0	0	70-90	40-75	30-50	10-30	10-32	2-13
	10-22	Gravelly sandy loam*, gravelly sandy clay loam.	SC*	A-2-4*, A-2-6	0	0-5	55-90	45-74	30-50	10-30	25-34	7-14
	22-24	Gravelly sandy loam*, gravelly sandy clay loam.	SC*	A-2-6*, A-2-4	0	0-5	65-85	58-75	30-50	10-30	25-34	7-14
	24-60	Stratified coarse sand to very gravelly loamy coarse sand*.	SW-SM*, SW	A-1-a*	0	0-10	60-75	32-65	7-30	2-10	0-0	NP
NpeA:												
Nineveh---------	0-8	Sandy loam*, loam.	SC-SM*, SC, SM	A-4*, A-6	0	0	92-100	75-100	60-85	25-65	15-40	3-15
	8-13	Loam*, sandy loam.	CL*	A-4*, A-6	0	0	92-100	75-100	55-85	50-65	26-34	8-14
	13-24	Clay loam*, sandy clay loam, silty clay loam.	CL*	A-6*, A-7	0	0	90-100	75-100	55-85	50-75	30-44	11-22
	24-33	Gravelly clay loam*, gravelly sandy clay loam, clay loam, loam, sandy clay loam.	SC*	A-6*, A-7	0	0	70-100	55-100	55-85	40-65	30-44	11-22
	33-36	Gravelly clay loam*, gravelly sandy clay loam, very gravelly loam.	SC*	A-7-6*, A-4, A-6	0	0	70-92	55-75	50-75	35-75	20-44	5-22
	36-60	Stratified very gravelly coarse sand to sand*.	SW-SM*	A-1-a*	0	0-10	60-100	25-50	10-40	2-10	0-0	NP

Table 16.--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	
NpeAQ:												
Nineveh---------	0-8	Sandy loam*, loam.	SC-SM*, SC, SM	A-4*, A-6	0	0	92-100	75-100	60-85	25-65	15-40	3-15
	8-13	Loam*, sandy loam.	CL*	A-4*, A-6	0	0	92-100	75-100	55-85	50-65	26-34	8-14
	13-24	Clay loam*, sandy clay loam, silty clay loam.	CL*	A-6*, A-7	0	0	90-100	75-100	55-85	50-75	30-44	11-22
	24-33	Gravelly clay loam*, gravelly sandy clay loam, clay loam, loam, sandy clay loam.	SC*	A-6*, A-7	0	0	70-100	55-100	55-85	40-65	30-44	11-22
	33-36	Gravelly clay loam*, gravelly sandy clay loam, very gravelly loam.	SC*	A-7-6*, A-4, A-6	0	0	70-92	55-75	50-75	35-75	20-44	5-22
	36-60	Stratified very gravelly coarse sand to sand*.	SW-SM*	A-1-a*	0	0-10	60-100	25-50	10-40	2-10	0-0	NP
NpeB2:												
Nineveh---------	0-8	Sandy loam*, loam.	SC-SM*, SC, SM	A-4*, A-6	0	0	92-100	75-100	60-85	25-65	15-40	3-15
	8-13	Loam*, sandy loam.	CL*	A-4*, A-6	0	0	92-100	75-100	55-85	50-65	26-34	8-14
	13-24	Clay loam*, sandy clay loam, silty clay loam.	CL*	A-6*, A-7	0	0	90-100	75-100	55-85	50-75	30-44	11-22
	24-33	Gravelly clay loam*, gravelly sandy clay loam, clay loam, loam, sandy clay loam.	SC*	A-6*, A-7	0	0	70-100	55-100	55-85	40-65	30-44	11-22
	33-36	Gravelly clay loam*, gravelly sandy clay loam, very gravelly loam.	SC*	A-7-6*, A-4, A-6	0	0	70-92	55-75	50-75	35-75	20-44	5-22
	36-60	Stratified very gravelly coarse sand to sand*.	SW-SM*	A-1-a*	0	0-10	60-100	25-50	10-40	2-10	0-0	NP
ObaA:												
Ockley----------	0-10	Loam*----------	CL*, CL-ML	A-4*	0	0	92-100	85-100	65-90	50-70	22-30	5-11
	10-24	Clay loam*, sandy clay loam, loam.	CL*	A-6*	0	0-2	92-100	85-100	65-80	50-75	30-44	11-22
	24-38	Sandy clay loam*, clay loam, loam.	SC*	A-2-6*	0	0-2	92-100	85-100	30-65	30-50	30-44	11-22
	38-44	Sandy clay loam*, gravelly sandy clay loam, sandy loam, very gravelly sandy loam.	SC*, CL	A-2-6*, A-7	0	0-3	65-95	60-85	45-60	20-50	30-44	11-22
	44-80	Stratified gravelly coarse sand to sand*.	SP-SM*, GP, GP-GM, SP	A-1-b*	0-1	1-5	50-85	30-85	15-40	0-10	0-0	NP

Table 16.--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	
OfaAW:												
Oldenburg-------	0-9	Silt loam*, loam.	CL-ML*, CL, ML	A-4*	0	0	98-100	95-100	85-100	65-90	18-30	3-10
	9-39	Loam*, sandy loam, silt loam.	ML*, CL, SC, SM	A-4*, A-2-4	0	0	95-100	85-100	50-95	25-70	15-30	2-10
	39-60	Stratified sandy loam to loamy sand to loam to gravelly sandy loam*.	SM*, CL-ML, ML, SC-SM	A-2-4*, A-1-B, A-4	0	0	60-100	50-100	30-90	15-70	0-24	NP-7
Omz:												
Orthents, earthen dam.												
PcrB2:												
Pekin----------	0-10	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-100	15-30	3-12
	10-24	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-100	75-100	24-38	5-18
	24-45	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-100	80-100	65-95	25-40	6-20
	45-80	Silt loam*, silty clay loam, loam, sandy loam.	CL*, ML, SC, SM	A-4*, A-2-4, A-2-6, A-6	0	0	90-100	85-100	50-100	25-95	15-38	3-18
PcrC2:												
Pekin----------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-100	15-30	3-12
	8-28	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-100	75-100	24-38	5-18
	28-57	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-100	80-100	65-95	25-40	6-20
	57-80	Silt loam*, silty clay loam, loam, sandy loam.	CL*, ML, SC, SM	A-4*, A-2-4, A-2-6, A-6	0	0	90-100	85-100	50-100	25-95	15-38	3-18
PcrC3:												
Pekin----------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-100	15-30	3-12
	6-18	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-100	75-100	24-38	5-18
	18-42	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	95-100	90-100	80-100	65-95	25-40	6-20
	42-80	Silt loam*, silty clay loam, loam, sandy loam.	CL*, ML, SC, SM	A-4*, A-2-4, A-2-6, A-6	0	0	90-100	85-100	50-100	25-95	15-38	3-18
PhaA:												
Peoga----------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	70-98	22-38	3-18
	8-19	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	70-98	22-38	3-18
	19-36	Silt loam*, silty clay loam.	CL*	A-6*, A-4, A-7-6	0	0	100	100	90-100	75-98	24-42	7-22
	36-76	Silt loam*, silty clay loam, loam.	CL*	A-6*, A-4, A-7-6	0	0	98-100	95-100	80-100	55-95	24-42	7-22
	76-80	Silty clay loam*, silt loam, loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	98-100	95-100	80-100	55-95	22-42	5-22

Table 16.--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	
PlpAV:												
Piopolis--------	0-10	Silty clay loam*	CL*	A-7*, A-6	0	0	100	100	90-100	85-100	35-50	11-25
	10-31	Silty clay loam*	CL*	A-7*, A-6	0	0	100	100	90-100	85-100	35-50	11-25
	31-60	Silty clay loam*, silt loam.	CL*	A-7*, A-6	0	0	100	100	90-100	75-100	35-50	11-25
Pml:												
Pits, quarry.												
PnnD:												
Pike----------	0-7	Silt loam*-------	ML*, CL, CL-ML	A-4*, A-6	0	0	100	100	95-100	90-100	22-40	2-17
	7-39	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	90-100	24-50	5-31
	39-53	Silt loam*-------	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-95	70-80	24-40	5-18
	53-80	Loam*, sandy loam, sandy clay loam.	CL*, ML, SC, SM	A-4*, A-2, A-6	0	0	90-100	85-100	35-85	25-70	14-40	NP-18
Chetwynd--------	0-8	Silt loam*-------	ML*, CL, CL-ML	A-4*, A-6	0	0	100	100	95-100	90-100	22-40	2-17
	8-15	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	90-100	24-50	5-31
	15-39	Sandy clay loam*, loam, clay loam.	SC*, CL, ML, SM	A-6*, A-2, A-4, A-7-6	0	0	90-100	85-100	70-90	30-75	23-50	2-29
	39-56	Sandy loam*, loam, sandy clay loam.	SC*, SM, CL, ML	A-2-4*, A-2-6, A-4	0	0	90-100	85-100	55-90	25-55	14-40	NP-18
	56-80	Loamy sand*, sandy loam, sand.	SC-SM*, SM, SP-SM	A-2-4*, A-3, A-1-B	0	0	90-100	85-100	45-70	5-35	0-25	NP-8
PnnF:												
Pike----------	0-7	Silt loam*-------	ML*, CL, CL-ML	A-4*, A-6	0	0	100	100	95-100	90-100	22-40	2-17
	7-39	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	90-100	24-50	5-31
	39-53	Silt loam*-------	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-95	70-80	24-40	5-18
	53-80	Loam*, sandy loam, sandy clay loam.	CL*, ML, SC, SM	A-4*, A-2, A-6	0	0	90-100	85-100	35-85	25-70	14-40	NP-18
Chetwynd--------	0-8	Silt loam*-------	ML*, CL, CL-ML	A-4*, A-6	0	0	100	100	95-100	90-100	22-40	2-17
	8-15	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	90-100	24-50	5-31
	15-39	Sandy clay loam*, loam, clay loam.	SC*, CL, ML, SM	A-6*, A-2, A-4, A-7-6	0	0	90-100	85-100	70-90	30-75	23-50	2-29
	39-56	Sandy loam*, loam, sandy clay loam.	SC*, SM, CL, ML	A-2-4*, A-2-6, A-4	0	0	90-100	85-100	55-90	25-55	14-40	NP-18
	56-80	Loamy sand*, sandy loam, sand.	SC-SM*, SM, SP-SM	A-2-4*, A-3, A-1-B	0	0	90-100	85-100	45-70	5-35	0-25	NP-8
Ppu:												
Pits, sand and gravel.												

Table 16.--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	
RctD3:												
Rarden----------	0-4	Silty clay loam*	CL*	A-6*, A-7	0	0	100	95-100	95-100	85-100	30-50	12-30
	4-24	Silty clay*, clay, silty clay loam.	CH*, ML	A-7*	0-2	0-5	95-100	90-100	85-100	85-100	41-70	13-45
	24-32	Extremely parachannery silty clay*, parachannery silty clay, extremely parachannery silty clay loam, parachannery silty clay loam.	CH*, CL, ML	A-7*	0-2	0-5	95-100	90-100	85-100	85-95	41-65	13-36
	32-60	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---
Coolville-------	0-4	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-100	85-100	24-40	3-15
	4-17	Silty clay loam*	CL*	A-7*, A-6	0	0	95-100	95-100	90-100	85-100	35-50	15-25
	17-38	Silty clay*, silty clay loam.	CH*, CL, ML	A-7*	0	0-5	95-100	85-100	80-100	75-100	41-65	13-36
	38-43	Parachannery silty clay loam*, parachannery silty clay, very parachannery silty clay, extremely parachannery silty clay loam.	CL*, CH, ML	A-7*	0	0-5	95-100	85-100	80-100	75-100	41-65	13-36
	43-60	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---
RehA:												
Rensselaer------	0-8	Silt loam*-------	CL*, CL-ML, ML	A-6*, A-4	0	0	100	100	90-100	75-95	20-40	3-20
	8-14	Silty clay loam*, clay loam.	CL*	A-6*	0	0	100	95-100	90-100	75-100	20-35	10-15
	14-38	Clay loam*, silty clay loam, loam.	CL*, CH, CL-ML, SC	A-6*, A-4, A-7-6	0	0	100	95-100	75-95	45-75	20-60	5-35
	38-47	Clay loam*, sandy clay loam, sandy loam.	CL*, ML, SC, SM	A-6*, A-2, A-2-4, A-4	0	0	100	95-100	70-95	25-65	17-40	NP-20
	47-80	Stratified sand to sandy loam*.	SC-SM*, ML, SP-SM	A-4*, A-1, A-2, A-3	0	0	90-100	85-100	40-100	5-90	0-30	NP-15
Treaty----------	0-14	Silt loam*-------	CL*, CL-ML, ML	A-6*, A-4	0	0	100	100	90-100	75-95	20-40	3-20
	14-36	Silty clay loam*	CL*	A-6*	0	0	100	100	95-100	85-95	35-45	15-25
	36-59	Loam*, clay loam, silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0-1	95-100	85-98	85-95	55-80	20-50	5-30
	59-70	Loam*, fine sandy loam.	CL*, CL-ML	A-4*, A-6	0	0-1	90-100	85-98	75-90	45-70	15-30	3-15

Table 16.--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	
ReyA:												
Rensselaer------	0-7	Loam*----------	CL*, CL-ML, ML	A-6*, A-4	0	0	100	95-100	75-95	50-75	20-40	3-20
	7-15	Loam*----------	CL*, CL-ML, ML	A-6*, A-4	0	0	100	95-100	75-95	50-75	20-40	3-20
	15-38	Clay loam*, silty clay loam, loam.	CL*, CH, CL-ML, SC	A-6*, A-4, A-7-6	0	0	100	95-100	75-95	45-75	20-60	5-35
	38-47	Clay loam*, sandy clay loam, sandy loam.	CL*, ML, SC, SM	A-6*, A-2, A-2-4, A-4	0	0	100	95-100	70-95	25-65	17-40	NP-20
	47-80	Stratified sand to sandy loam*.	SC-SM*, ML, SP-SM	A-4*, A-1, A-2, A-3	0	0	90-100	85-100	40-100	5-90	0-30	NP-15
ReyAQ:												
Rensselaer------	0-7	Loam*----------	CL*, CL-ML, ML	A-6*, A-4	0	0	100	95-100	75-95	50-75	20-40	3-20
	7-15	Loam*----------	CL*, CL-ML, ML	A-6*, A-4	0	0	100	95-100	75-95	50-75	20-40	3-20
	15-38	Clay loam*, silty clay loam, loam.	CL*, CH, CL-ML, SC	A-6*, A-4, A-7-6	0	0	100	95-100	75-95	45-75	20-60	5-35
	38-47	Clay loam*, sandy clay loam, sandy loam.	CL*, ML, SC, SM	A-6*, A-2, A-2-4, A-4	0	0	100	95-100	70-95	25-65	17-40	NP-20
	47-80	Stratified sand to sandy loam*.	SC-SM*, ML, SP-SM	A-4*, A-1, A-2, A-3	0	0	90-100	85-100	40-100	5-90	0-30	NP-15
RqaG:												
Rodman----------	0-10	Sandy loam*------	SC-SM*, CL, ML, SC, SM	A-2-4*	0	0-2	85-100	80-98	60-80	25-65	15-30	3-10
	10-18	Very gravelly coarse sandy loam*, very gravelly loam, gravelly sandy loam, coarse sandy loam.	SC-SM*, SC, SM	A-1-b*, A-4	0	0-2	70-100	45-85	13-85	10-45	15-30	NP-10
	18-80	Stratified very gravelly loamy coarse sand to extremely gravelly loamy coarse sand to very gravelly sand*.	SW-SM*, GP-GM, GW-GM, SP-SM	A-1-a*, A-1	0	1-5	30-70	10-50	10-40	0-10	0-0	NP
RtxAH:												
Rossburg--------	0-14	Silt loam*, silty clay loam.	CL*	A-6*	0	0	95-100	85-100	80-100	60-90	30-39	11-18
	14-34	Silty clay loam*, silt loam, loam, clay loam.	CL*	A-6*	0	0	90-100	85-100	80-100	60-90	30-43	11-21
	34-42	Loam*, sandy loam, silt loam, fine sandy loam, clay loam, silty clay loam.	CL*	A-6*, A-4	0	0	90-100	85-100	70-95	50-80	28-41	9-20
	42-80	Stratified sand to loamy sand to very gravelly sandy loam to loam to silt loam*.	SC-SM*, CL-ML, SM	A-2-4*, A-1-B, A-4	0	0	78-100	70-100	40-90	15-70	10-25	2-7

Table 16.--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	
RtxAK:												
Rossburg--------	0-14	Silt loam*, silty clay loam.	CL*	A-6*	0	0	95-100	85-100	80-100	60-90	30-39	11-18
	14-34	Silty clay loam*, silt loam, loam, clay loam.	CL*	A-6*	0	0	90-100	85-100	80-100	60-90	30-43	11-21
	34-42	Loam*, sandy loam, silt loam, fine sandy loam, clay loam, silty clay loam.	CL*	A-6*, A-4	0	0	90-100	85-100	70-95	50-80	28-41	9-20
	42-80	Stratified sand to loamy sand to very gravelly sandy loam to loam to silt loam*.	SC-SM*, CL-ML, SM	A-2-4*, A-1-B, A-4	0	0	78-100	70-100	40-90	15-70	10-25	2-7
RywB2:												
Russell---------	0-8	Silt loam*-------	CL-ML*, CL	A-4*	0	0	100	100	95-100	75-95	20-30	4-10
	8-13	Silty clay loam*, silt loam.	CL*	A-6*, A-7	0	0	100	100	95-100	75-95	25-45	5-25
	13-28	Silty clay loam*	CL*	A-6*, A-7	0	0	100	100	85-100	55-95	30-50	10-30
	28-52	Clay loam*, loam, silty clay loam.	CL*	A-6*, A-7	0	0-1	95-100	85-100	85-95	55-80	30-50	10-30
	52-58	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0	0-1	92-100	85-100	75-95	55-80	20-50	NP-30
	58-80	Loam*, fine sandy loam.	CL*, CL-ML	A-4*, A-6	0	0-3	90-100	80-95	75-90	45-70	15-30	3-15
SfyA:												
Shircliff-------	0-8	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-100	85-100	25-40	5-20
	8-19	Silty clay loam*, silt loam.	CL*	A-6*, A-4, A-7-6	0	0	100	100	95-100	90-100	26-50	8-30
	19-43	Silty clay*, silty clay loam.	CH*, CL	A-7-6*	0	0	100	100	95-100	90-100	45-65	20-40
	43-80	Silty clay*, silty clay loam, silt loam.	CL*, CH, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	90-100	16-55	5-30
SifE:												
Senachwine------	0-8	Loam*----------	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	95-100	80-95	55-70	21-35	4-15
	8-26	Clay loam*, silty clay loam.	CL*	A-6*	0	0	92-100	85-100	85-95	55-90	35-41	15-20
	26-32	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0-1	0-1	92-100	85-95	80-95	55-80	26-39	6-18
	32-60	Loam*, fine sandy loam.	CL-ML*, CL, ML	A-4*	0-1	0-5	90-100	85-95	75-90	45-70	20-28	4-9
SifG:												
Senachwine------	0-6	Loam*----------	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	95-100	80-95	55-70	21-35	4-15
	6-26	Clay loam*, silty clay loam.	CL*	A-6*	0	0	92-100	85-100	85-95	55-90	35-41	15-20
	26-32	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0-1	0-1	92-100	85-95	80-95	55-80	26-39	6-18
	32-60	Loam*, fine sandy loam.	CL-ML*, CL, ML	A-4*	0-1	0-5	90-100	85-95	75-90	45-70	20-28	4-9

Table 16.--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	
SldAH:												
Shoals----------	0-8	Silt loam*, loam.	CL*, CL-ML, ML	A-6*, A-4	0	0	100	95-100	90-100	50-100	21-35	4-15
	8-33	Loam*, silt loam, clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	75-100	50-100	25-42	7-21
	33-60	Stratified sandy loam to silt loam*.	SC*, CL-ML, ML, SM, CL	A-4*, A-2-4, A-2-6, A-6	0	0-3	90-100	80-100	50-100	20-100	0-37	NP-16
SldAW:												
Shoals----------	0-8	Silt loam*, loam.	CL*, CL-ML, ML	A-6*, A-4	0	0	100	95-100	90-100	50-100	21-35	4-15
	8-33	Loam*, silt loam, clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	75-100	50-100	25-42	7-21
	33-60	Stratified sandy loam to silt loam*.	SC*, CL-ML, ML, SM, CL	A-4*, A-2-4, A-2-6, A-6	0	0-3	90-100	80-100	50-100	20-100	0-37	NP-16
SnfA:												
Sleeth----------	0-9	Loam*----------	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	85-100	75-90	50-75	21-40	4-15
	9-14	Loam*, silt loam.	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	85-100	75-90	50-75	21-40	4-15
	14-38	Clay loam*, loam, sandy clay loam.	CL*	A-6*, A-7	0	0	90-98	85-98	55-95	50-75	30-43	11-21
	38-50	Gravelly clay loam*, gravelly sandy clay loam, gravelly loam, gravelly sandy loam.	SC*, CL	A-6*, A-7	0	0-3	75-92	55-75	30-70	15-55	25-43	7-21
	50-60	Stratified gravelly coarse sand to gravelly sand to sand to gravelly loamy coarse sand*, stratified very gravelly coarse sand.	SW-SM*, SW	A-1-b*	0-1	0-10	75-92	35-85	18-35	0-10	0-0	NP
SoaB:												
Spickert--------	0-7	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-100	90-100	23-40	3-15
	7-36	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	90-100	25-50	5-30
	36-57	Silt loam*, silty clay loam.	CL*, CL-ML	A-4*, A-6	0	0-2	90-100	80-98	75-98	65-95	20-36	5-15
	57-74	Silty clay loam*, silt loam, channery silty clay loam, very channery silt loam.	CL*, CL-ML, GC, GC-GM	A-6*, A-2-4, A-2-6, A-4	0-5	5-40	40-90	35-85	35-85	25-80	20-40	5-20
	74-80	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---

Table 16.--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	
SocAH:												
Sloan----------	0-15	Silty clay loam*	CL*	A-6*, A-7	0	0	100	95-100	85-100	70-95	35-45	12-20
	15-45	Clay loam*, silty clay loam, silt loam, loam.	CL*, ML	A-6*, A-4, A-7	0	0	100	90-100	80-100	70-95	30-45	8-18
	45-60	Stratified sandy loam to silt loam to gravelly clay loam to silty clay loam*.	CL*, ML	A-4*, A-6	0	0	95-100	50-100	50-95	30-90	25-40	3-15
SocAW:												
Sloan----------	0-15	Silty clay loam*	CL*	A-6*, A-7	0	0	100	95-100	85-100	70-95	35-45	12-20
	15-45	Clay loam*, silty clay loam, silt loam, loam.	CL*, ML	A-6*, A-4, A-7	0	0	100	90-100	80-100	70-95	30-45	8-18
	45-60	Stratified sandy loam to silt loam to gravelly clay loam to silty clay loam*.	CL*, ML	A-4*, A-6	0	0	95-100	50-100	50-95	30-90	25-40	3-15
SoeC2:												
Spickert--------	0-6	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-100	90-100	23-40	3-15
	6-36	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	90-100	25-50	5-30
	36-57	Silt loam*, silty clay loam.	CL*, CL-ML	A-4*, A-6	0	0-2	90-100	80-98	75-98	65-95	20-36	5-15
	57-74	Silty clay loam*, silt loam, channery silty clay loam, very channery silt loam.	CL*, CL-ML, GC, GC-GM	A-6*, A-2-4, A-2-6, A-4	0-2	0-30	40-90	35-85	35-85	25-80	20-40	5-20
	74-80	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---
Wrays----------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	90-100	22-35	2-12
	6-25	Silty clay loam*, silt loam.	CL*	A-6*, A-7-6	0	0	100	100	95-100	90-100	30-50	12-30
	25-34	Silty clay loam*, channery silty clay loam, silt loam, channery silt loam.	CL*, GC	A-6*, A-4, A-7-6	0	0-10	65-100	60-95	55-95	45-90	30-44	8-20
	34-44	Extremely channery silt loam*, extremely channery silty clay loam, channery silt loam, channery silty clay loam.	GC*, CL, GM, ML	A-2-4*, A-2-6, A-4, A-6	0-10	10-40	35-85	30-80	25-80	15-75	18-38	3-14
	44-60	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---

Table 16.--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	
SolC2:												
Spickert--------	0-6	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	95-100	90-100	23-40	3-15
	6-36	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	90-100	25-50	5-30
	36-57	Silt loam*, silty clay loam.	CL*, CL-ML	A-4*, A-6	0	0-2	90-100	80-98	75-98	65-95	20-36	5-15
	57-74	Silty clay loam*, silt loam, channery silty clay loam, very channery silt loam.	CL*, CL-ML, GC, GC-GM	A-6*, A-2-4, A-2-6, A-4	0-5	5-40	40-90	35-85	35-85	25-80	20-40	5-20
	74-80	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---
Wrays----------	0-6	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	90-100	22-35	2-12
	6-25	Silty clay loam*, silt loam.	CL*	A-6*, A-7-6	0	0	100	100	95-100	90-100	30-50	12-30
	25-34	Silty clay loam*, channery silty clay loam, silt loam, channery silt loam.	CL*, GC	A-6*, A-4, A-7-6	0	0-10	65-100	60-95	55-95	45-90	30-44	8-20
	34-44	Extremely channery silt loam*, extremely channery silty clay loam, channery silt loam, channery silty clay loam.	GC*, CL, GM, ML	A-2-4*, A-2-6, A-4, A-6	0-10	10-40	35-85	30-80	25-80	15-75	18-38	3-14
	44-60	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---
SolC3:												
Spickert--------	0-3	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-100	90-100	23-40	4-15
	3-18	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	95-100	90-100	25-50	5-30
	18-58	Silt loam*, silty clay loam.	CL*, CL-ML	A-4*, A-6	0	0-2	90-100	80-98	75-98	65-95	20-36	5-15
	58-64	Silty clay loam*, silt loam, channery silty clay loam, very channery silt loam.	CL*, CL-ML, GC, GC-GM	A-6*, A-2-4, A-2-6, A-4	0-5	5-40	40-90	35-85	35-85	25-80	20-40	5-20
	64-80	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---

Table 16.--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	
SolC3:												
Wrays----------	0-3	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	100	95-100	90-100	23-35	4-12
	3-26	Silty clay loam*, silt loam.	CL*	A-6*, A-7-6	0	0	100	100	95-100	90-100	30-50	12-30
	26-33	Silty clay loam*, channery silty clay loam, silt loam, channery silt loam.	CL*, GC	A-6*, A-4, A-7-6	0	0-10	65-100	60-95	55-95	45-90	30-44	8-20
	33-41	Extremely channery silt loam*, extremely channery silty clay loam, channery silt loam, channery silty clay loam.	GC*, CL, GM, ML	A-2-4*, A-2-6, A-4, A-6	0-10	10-40	35-85	30-80	25-80	15-75	18-38	3-14
	41-60	Unweathered bedrock*.	---	---	---	---	---	---	---	---	---	---
StaAV:												
Steff----------	0-10	Silt loam*-------	ML*, CL, CL-ML	A-4*	0	0	100	95-100	85-100	75-100	16-28	2-9
	10-31	Silt loam*-------	CL*, CL-ML, ML	A-4*	0	0	95-100	95-100	85-100	75-100	20-28	3-9
	31-60	Stratified silt loam to loam to sandy loam*.	CL*, ML, SM	A-4*, A-2-4	0	0	85-100	75-100	60-100	25-95	20-35	3-15
StdAQ:												
Stendal---------	0-8	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	90-100	75-100	22-38	3-15
	8-40	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-100	80-100	25-50	5-24
	40-60	Stratified silt loam to silty clay loam to loam*.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	95-100	90-100	75-100	55-95	25-50	5-24
StdAV:												
Stendal---------	0-11	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-100	70-90	25-38	3-15
	11-41	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	85-98	25-50	5-24
	41-60	Stratified silt loam to silty clay loam to loam*.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	95-100	90-100	75-100	55-90	25-50	5-24

Table 16.--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	
StmB:												
Stonehead-------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	90-100	23-40	3-15
	7-30	Silty clay loam*, silt loam.	CL*	A-6*, A-7-6	0	0	100	100	95-100	90-100	30-50	12-32
	30-46	Silty clay*, parachannery silty clay, parachannery silty clay loam, clay.	CH*, CL	A-7*	0	0-5	90-100	90-100	85-100	80-95	42-62	16-36
	46-65	Very parachannery silty clay loam*, extremely parachannery silty clay loam, parachannery silty clay loam.	CL*	A-6*, A-7	0	0-5	90-100	90-100	85-100	80-95	32-42	12-22
	65-80	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---
SucC2:												
Stonehead-------	0-5	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	90-100	23-40	3-15
	5-30	Silty clay loam*, silt loam.	CL*	A-6*, A-7-6	0	0	100	100	95-100	90-100	30-50	12-32
	30-46	Silty clay*, parachannery silty clay, parachannery silty clay loam, clay.	CH*, CL	A-7*	0	0-5	90-100	90-100	85-100	80-95	42-62	16-36
	46-65	Very parachannery silty clay loam*, extremely parachannery silty clay loam, parachannery silty clay loam.	CL*	A-6*, A-7	0	0-5	90-100	90-100	85-100	80-95	32-42	12-22
	65-80	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---
Coolville-------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	85-100	24-40	3-15
	8-21	Silty clay loam*	CL*	A-7*, A-6	0	0	95-100	95-100	90-100	85-100	35-50	15-25
	21-37	Silty clay*, silty clay loam.	CH*, CL, ML	A-7*	0	0-5	95-100	85-100	80-100	75-100	41-65	13-36
	37-44	Parachannery silty clay loam*, parachannery silty clay, very parachannery silty clay, extremely parachannery silty clay loam.	CL*, CH, ML	A-7*	0	0-5	95-100	85-100	80-100	75-100	41-65	13-36
	44-60	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---

Table 16.--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	
SujD5:												
Stonehead, gullied--------	0-3	Silt loam*--------	CL*, CL-ML,	A-4*, A-6	0	0	100	100	90-100	85-100	24-40	3-15
	3-13	Silty clay loam*	CL*	A-7*, A-6	0	0	95-100	95-100	90-100	85-100	35-50	15-25
	13-38	Silty clay*, silty clay loam.	CH*, CL, ML	A-7*	0	0-5	95-100	85-100	80-100	75-100	41-65	13-36
	38-44	Parachannery silty clay loam*, parachannery silty clay, very parachannery silty clay, extremely parachannery silty clay loam.	CL*, CH, ML	A-7*	0	0-5	95-100	85-100	80-100	75-100	41-65	13-36
	44-60	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---
SulC2:												
Stonehead--------	0-5	Silt loam*--------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	90-100	23-40	3-15
	5-30	Silty clay loam*, silt loam.	CL*	A-6*, A-7-6	0	0	100	100	95-100	90-100	30-50	12-32
	30-46	Silty clay*, parachannery silty clay, parachannery silty clay loam, clay.	CH*, CL	A-7*	0	0-5	90-100	90-100	85-100	80-95	42-62	16-36
	46-65	Very parachannery silty clay loam*, extremely parachannery silty clay loam, parachannery silty clay loam.	CL*	A-6*, A-7	0	0-5	90-100	90-100	85-100	80-95	32-42	12-22
	65-80	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---

Table 16.--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	
SulC2:												
Wellrock--------	0-4	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	90-100	25-35	3-12
	4-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	95-100	95-100	25-35	3-12
	8-28	Silty clay loam*, silt loam.	CL*	A-6*, A-7-6	0	0	100	100	95-100	95-100	30-50	10-30
	28-36	Silty clay loam*, parachannery silty clay loam, parachannery silt loam, silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0-5	90-100	85-100	80-100	75-100	20-42	5-18
	36-52	Extremely parachannery silt loam*, very parachannery silt loam, extremely parachannery silty clay loam, very parachannery silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0-5	85-100	80-100	80-100	75-100	20-42	5-18
	52-80	Weathered bedrock*.	---	---	---	---	---	---	---	---	---	---
SuoAH:												
Stonelick-------	0-10	Fine sandy loam*	SM*, CL-ML, ML, SC-SM	A-4*, A-2-4	0	0	92-100	75-100	70-100	30-55	15-24	2-7
	10-60	Stratified sand to loamy sand to sandy loam to loam*.	SM*, CL-ML, ML, SP-SM	A-4*, A-1-B, A-2, A-3	0	0	92-100	75-100	40-95	5-75	0-24	NP-7
Uaz:												
Udorthents, sandy.												
Uby:												
Udorthents, loamy.												
UemB:												
Urban land.												

Table 16.--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	
SuoAH:												
Alvin----------	0-7	Fine sandy loam*	SM*, SC-SM	A-4*, A-2-4	0	0	100	100	80-100	25-50	0-25	NP-7
	7-10	Fine sandy loam*, sandy loam, loamy fine sand.	SM*, SC-SM	A-2-4*, A-4	0	0	100	100	70-100	15-45	0-25	NP-7
	10-40	Fine sandy loam*, sandy loam, sandy clay loam, loam.	SC*, ML, SM, SC-SM, CL	A-2-4*, A-4, A-2-6, A-6	0	0	100	100	70-100	20-50	15-32	NP-13
	40-70	Loamy sand*, sandy loam, fine sandy loam, fine sand.	SM*, SC, SC-SM	A-2-4*, A-2	0	0	100	100	70-100	15-45	0-25	NP-9
	70-80	Fine sand*, loamy fine sand, sand, sandy loam.	SM*, SP-SM, SW-SM	A-2-4*, A-3	0	0	100	100	50-90	5-20	0-20	NP-4
Princeton-------	0-8	Fine sandy loam*	SC-SM*, SC, SM	A-4*, A-2-4	0	0	100	100	80-100	25-50	0-30	NP-11
	8-41	Fine sandy loam*, sandy clay loam, sandy loam, loam.	SC*, CL	A-4*, A-2-4, A-2-6, A-6	0	0	100	100	70-90	15-70	28-34	9-14
	41-60	Loamy sand*, sand, fine sand, loamy fine sand, fine sandy loam, sandy loam, loam.	SC-SM*, SC	A-2-4*	0	0	100	100	70-95	10-35	2-25	NP-10
	60-80	Stratified fine sand to loamy sand to loamy fine sand to fine sandy loam*.	SM*, SC-SM	A-2-4*	0	0	100	100	70-95	0-30	0-20	NP-4
UemC:												
Urban land.												
Alvin----------	0-7	Fine sandy loam*	SM*, SC-SM	A-4*, A-2-4	0	0	100	100	80-100	25-50	0-25	NP-7
	7-10	Fine sandy loam*, loamy fine sand, loamy sand.	SM*, SC-SM	A-2-4*, A-4	0	0	100	100	70-100	15-45	0-25	NP-7
	10-40	Fine sandy loam*, sandy loam, sandy clay loam, loam.	SC*, ML, SM, SC-SM, CL	A-2-4*, A-4, A-2-6, A-6	0	0	100	100	70-100	20-50	15-32	NP-13
	40-70	Loamy sand*, sandy loam, fine sandy loam, fine sand.	SM*, SC, SC-SM	A-2-4*, A-2	0	0	100	100	70-100	15-45	0-25	NP-9
	70-80	Fine sand*, loamy fine sand, sand, sandy loam.	SM*, SP-SM, SW-SM	A-2-4*, A-3	0	0	100	100	50-90	5-20	0-20	NP-4

Table 16.--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	
UemC:												
Princeton-------	0-8	Fine sandy loam*	SC-SM*, SC, SM	A-4*, A-2-4	0	0	100	100	80-100	25-50	0-30	NP-11
	8-41	Fine sandy loam*, sandy clay loam, sandy loam, loam.	SC*, CL	A-4*, A-2-4, A-2-6, A-6	0	0	100	100	70-90	15-70	28-34	9-14
	41-60	Loamy sand*, sand, fine sand, loamy fine sand, fine sandy loam, sandy loam, loam.	SC-SM*, SC	A-2-4*	0	0	100	100	70-95	10-35	2-25	NP-10
	60-80	Stratified fine sand to loamy sand to loamy fine sand to fine sandy loam*.	SM*, SC-SM	A-2-4*	0	0	100	100	70-95	0-30	0-20	NP-4
UenA:												
Urban land.												
Fox----------	0-8	Loam*----------	CL*, CL-ML	A-4*, A-6	0	0	90-100	90-98	75-85	50-65	23-35	5-15
	8-22	Clay loam*, sandy clay loam.	CL*	A-6*, A-7	0	0	85-100	75-98	55-95	50-75	30-50	10-25
	22-33	Gravelly clay loam*, gravelly sandy clay loam, gravelly loam.	SC*, CL	A-6*, A-2-6, A-2-7, A-7	0	0-5	55-95	50-74	40-70	20-60	30-45	10-22
	33-60	Stratified coarse sand to very gravelly sand*.	SW-SM*, SW	A-1-a*	0-1	0-10	50-85	30-65	7-30	2-10	0-0	NP
UenB:												
Urban land.												
Fox----------	0-7	Loam*----------	CL*, CL-ML	A-4*, A-6	0	0	90-100	90-98	75-85	50-65	23-35	5-15
	7-22	Clay loam*, sandy clay loam.	CL*	A-6*, A-7	0	0	85-100	75-98	55-95	50-75	30-50	10-25
	22-33	Gravelly clay loam*, gravelly sandy clay loam, gravelly loam.	SC*, CL	A-6*, A-2-6, A-2-7, A-7	0	0-5	55-95	50-74	40-70	20-60	30-45	10-22
	33-60	Stratified coarse sand to very gravelly sand*.	SW-SM*, SW	A-1-a*	0-1	0-10	50-85	30-65	7-30	2-10	0-0	NP
UepC:												
Urban land.												

Table 16.--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	
UepC:												
Fox----------	0-6	Sandy loam*------	SC-SM*, SC, SM	A-4*, A-2-4	0	0	80-100	75-98	60-80	25-45	15-25	NP-10
	6-22	Clay loam*, sandy clay loam.	CL*	A-6*, A-7	0	0	85-100	75-98	55-95	50-75	30-50	10-25
	22-33	Gravelly clay loam*, gravelly sandy clay loam, gravelly loam.	SC*, CL	A-6*, A-2-6, A-2-7, A-7	0	0-5	55-95	50-74	40-70	20-60	30-45	10-22
	33-60	Stratified coarse sand to very gravelly sand*.	SW-SM*, SW	A-1-a*	0-1	0-10	50-85	30-65	7-30	2-10	0-0	NP
Casco----------	0-4	Sandy loam*------	SC-SM*, SC, SM	A-2-4*, A-4	0	0	80-100	75-98	60-80	25-45	15-25	NP-10
	4-12	Gravelly sandy clay loam*, sandy clay loam, gravelly loam, gravelly clay loam, clay loam, loam.	CL*	A-6*, A-7	0	0-5	85-100	75-98	40-95	25-75	30-50	10-25
	12-16	Very gravelly sandy clay loam*, gravelly clay loam, gravelly sandy clay loam, very gravelly clay loam.	SC*, CL	A-2-6*, A-2-7, A-6, A-7	0-1	0-5	55-95	50-74	40-70	20-60	30-45	10-22
	16-60	Stratified very gravelly coarse sand to sand*.	SW-SM*, SW	A-1-a*	0-1	0-10	50-85	30-65	7-30	2-10	0-0	NP
UfcB:												
Urban land.												
Cincinnati------	0-8	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-95	23-40	3-15
	8-24	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	100	100	90-100	80-95	24-45	5-25
	24-74	Silt loam*, loam.	CL*	A-6*, A-4	0	0	98-100	95-100	85-95	55-85	24-44	8-25
	74-80	Clay loam*, loam.	CL*	A-6*, A-4, A-7-6	0	0-2	90-100	85-95	70-90	55-70	25-50	8-30
Nabb----------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-95	22-40	2-15
	7-13	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-95	22-40	2-15
	13-33	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	80-90	25-45	5-25
	33-71	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-7-6, A-4	0	0	98-100	95-100	90-95	70-85	25-45	5-20
	71-80	Clay loam*, loam.	CL*	A-6*, A-4, A-7-6	0-2	0-2	90-100	85-95	70-90	55-70	25-50	8-30
UfdA:												
Urban land.												

Table 16.--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	
UfdA:												
Cobbsfork-------	0-12	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-90	23-40	3-15
	12-18	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	75-90	23-40	3-16
	18-38	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	80-90	25-45	5-20
	38-50	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-100	80-90	25-45	5-20
	50-85	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	95-100	90-100	75-90	25-40	5-20
	85-90	Clay loam*-------	CL*	A-6*, A-7-6	0	0	90-100	85-95	70-90	55-70	28-50	10-30
Avonburg--------	0-11	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-90	23-40	3-15
	11-21	Silt loam*-------	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	90-100	80-85	23-40	3-15
	21-37	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	100	90-100	85-90	25-45	5-20
	37-52	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-95	75-85	25-45	5-20
	52-83	Silt loam*-------	CL*, CL-ML	A-6*, A-4, A-7-6	0	0	100	95-100	90-95	70-80	25-45	5-20
	83-90	Clay loam*-------	CL*	A-7-6*, A-6	0-1	0-1	90-100	85-95	70-90	55-70	36-48	15-25
UfnA:												
Urban land.												
Crosby----------	0-8	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	92-100	80-95	60-85	15-40	3-15
	8-11	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	92-100	80-95	60-85	15-40	3-15
	11-14	Silt loam*, silty clay loam.	CL*, CL-ML, ML	A-6*, A-4	0	0	95-100	92-100	80-95	60-85	20-40	3-20
	14-28	Clay loam*, silty clay loam, silty clay, clay.	CL*, CH	A-7-6*, A-6	0-1	0-3	90-100	85-100	75-95	55-90	30-60	10-35
	28-36	Loam*, fine sandy loam, clay loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-3	85-100	80-98	65-90	40-70	15-35	3-20
	36-80	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-3	85-100	80-98	65-90	40-70	15-30	3-15
UfoA:												
Urban land.												
Cyclone---------	0-14	Silty clay loam*, silt loam.	CL*	A-6*	0	0	100	100	90-100	75-95	25-40	15-20
	14-20	Silt loam*, silty clay loam.	CL*	A-7-6*, A-6	0	0	100	100	90-100	80-95	35-55	15-40
	20-49	Silty clay loam*, silt loam.	CL*	A-7-6*, A-6	0	0	100	100	90-100	80-95	35-55	15-40
	49-60	Loam*, clay loam.	CL*	A-7-6*, A-6	0	0	92-100	85-100	85-100	65-90	35-55	15-40
	60-80	Loam*, fine sandy loam.	CL*, CL-ML, ML, SC	A-4*, A-6	0-1	0-3	90-100	85-98	75-90	40-70	15-30	3-15
UfxA:												
Urban land.												

Table 16.--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	
UfxA:												
Fincastle-------	0-10	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	98-100	90-100	75-94	20-35	4-14
	10-13	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	98-100	90-100	75-94	20-35	4-14
	13-27	Silty clay loam*, silt loam.	CL*, CH	A-7-6*, A-6, A-7	0	0	100	98-100	90-100	75-94	35-55	15-35
	27-50	Clay loam*, loam.	CL*	A-6*, A-7	0	0-2	92-100	85-100	80-95	55-80	30-50	10-30
	50-59	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0	0-2	90-100	85-100	65-95	45-80	20-50	3-30
	59-80	Loam*, fine sandy loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-6	0-1	0-5	90-100	80-95	65-90	45-70	15-30	3-15
UfyB:												
Urban land.												
Fincastle-------	0-10	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	98-100	90-100	75-94	20-35	4-14
	10-13	Silt loam*-------	CL*, CL-ML	A-4*, A-6	0	0	100	98-100	90-100	75-94	20-35	4-14
	13-27	Silty clay loam*, silt loam.	CL*, CH	A-7-6*, A-6, A-7	0	0	100	98-100	90-100	75-94	35-55	15-35
	27-50	Clay loam*, loam.	CL*	A-6*, A-7	0	0-2	92-100	85-100	80-95	55-80	30-50	10-30
	50-59	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0	0-2	90-100	85-100	65-95	45-80	20-50	3-30
	59-80	Loam*, fine sandy loam.	CL*, CL-ML, SC, SC-SM	A-4*, A-6	0-1	0-5	90-100	80-95	65-90	45-70	15-30	3-15
Russell---------	0-8	Silt loam*-------	CL-ML*, CL	A-4*	0	0	100	100	95-100	75-95	20-30	4-10
	8-13	Silty clay loam*, silt loam.	CL*	A-6*, A-7	0	0	100	100	95-100	75-95	25-45	5-25
	13-28	Silty clay loam*	CL*	A-6*, A-7	0	0	100	100	85-100	55-95	30-50	10-30
	28-52	Clay loam*, loam, silty clay loam.	CL*	A-6*, A-7	0	0-1	95-100	85-100	85-95	55-80	30-50	10-30
	52-58	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0	0-1	92-100	85-100	75-95	55-80	20-50	NP-30
	58-80	Loam*, fine sandy loam.	CL*, CL-ML	A-4*, A-6	0	0-3	90-100	80-95	75-90	45-70	15-30	3-15
UhyA:												
Urban land.												
Martinsville, sandy substratum-----	0-11	Loam*----------	CL-ML*, CL, ML	A-4*	0	0	100	100	75-100	50-70	18-30	3-10
	11-14	Loam*----------	CL-ML*, CL, ML	A-4*	0	0	100	100	75-100	50-70	18-30	3-10
	14-39	Clay loam*, sandy clay loam.	CL*, SC	A-6*	0	0	92-100	85-100	75-95	40-75	30-40	11-18
	39-55	Sandy clay loam*, sandy loam, loam.	SC*, CL-ML, CL, SC-SM	A-6*, A-2-4, A-2-6, A-4	0	0	95-100	90-100	80-95	30-75	25-37	7-16
	55-72	Stratified sand to sandy loam to fine sandy loam to loam to silt loam*.	SC-SM*, CL-ML, ML, SM	A-4*, A-2-4, A-2-6, A-6	0	0	95-100	90-100	50-80	10-75	0-30	NP-11
	72-80	Stratified coarse sand to sand to loamy coarse sand*.	SW-SM*, SW	A-1-b*	0	0-10	75-100	75-100	7-45	2-15	0-0	NP
UkbC:												
Urban land.												

Table 16.--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	
UkbC:												
Miami----------	0-7	Silt loam*-------	CL*, ML, CL-ML	A-4*, A-6	0	0	95-100	92-100	85-100	75-90	20-30	3-15
	7-13	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0-1	95-100	92-100	85-98	75-90	25-55	5-35
	13-31	Clay loam*, silty clay loam.	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-98	75-95	55-85	30-50	11-31
	31-36	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-6*, A-4	0-1	0-5	90-98	85-98	65-95	40-70	15-37	3-22
	36-80	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-5	90-98	85-98	65-90	40-70	15-30	3-15
UkpA:												
Urban land.												
Ockley----------	0-10	Loam*----------	CL*, CL-ML	A-4*	0	0	92-100	85-100	65-90	50-70	22-30	5-11
	10-24	Clay loam*, sandy clay loam, loam.	CL*	A-6*	0	0-2	92-100	85-100	65-80	50-75	30-44	11-22
	24-38	Sandy clay loam*, clay loam, loam.	SC*	A-2-6*	0	0-2	92-100	85-100	30-65	30-50	30-44	11-22
	38-44	Sandy clay loam*, gravelly sandy clay loam, sandy loam, very gravelly sandy loam.	SC*, CL	A-2-6*, A-7	0	0-3	65-95	60-85	45-60	20-50	30-44	11-22
	44-80	Stratified gravelly coarse sand to sand*.	SP-SM*, GP, GP-GM, SP	A-1-b*	0-1	1-5	50-85	30-85	15-40	0-10	0-0	NP
UkqA:												
Urban land.												
Nineveh---------	0-8	Sandy loam*, loam.	SC-SM*, SC, SM	A-4*, A-6	0	0	92-100	75-100	60-85	25-65	15-40	3-15
	8-13	Loam*, sandy loam.	CL*	A-4*, A-6	0	0	92-100	75-100	55-85	50-65	26-34	8-14
	13-24	Clay loam*, sandy clay loam, silty clay loam.	CL*	A-6*, A-7	0	0	90-100	75-100	55-85	50-75	30-44	11-22
	24-33	Gravelly clay loam*, gravelly sandy clay loam, clay loam, loam, sandy clay loam.	SC*	A-6*, A-7	0	0	70-100	55-100	55-85	40-65	30-44	11-22
	33-36	Gravelly clay loam*, gravelly sandy clay loam, very gravelly loam.	SC*	A-7-6*, A-4, A-6	0	0	70-92	55-75	50-75	35-75	20-44	5-22
	36-60	Stratified very gravelly coarse sand to sand*.	SW-SM*	A-1-a*	0	0-10	60-100	25-50	10-40	2-10	0-0	NP
UkqB:												
Urban land.												

Table 16.--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	
UkqB:												
Nineveh---------	0-8	Sandy loam*, loam.	SC-SM*, SC, SM	A-4*, A-6	0	0	92-100	75-100	60-85	25-65	15-40	3-15
	8-13	Loam*, sandy loam.	CL*	A-4*, A-6	0	0	92-100	75-100	55-85	50-65	26-34	8-14
	13-24	Clay loam*, sandy clay loam, silty clay loam.	CL*	A-6*, A-7	0	0	90-100	75-100	55-85	50-75	30-44	11-22
	24-33	Gravelly clay loam*, gravelly sandy clay loam, clay loam, loam, sandy clay loam.	SC*	A-6*, A-7	0	0	70-100	55-100	55-85	40-65	30-44	11-22
	33-36	Gravelly clay loam*, gravelly sandy clay loam, very gravelly loam.	SC*	A-7-6*, A-4, A-6	0	0	70-92	55-75	50-75	35-75	20-44	5-22
	36-60	Stratified very gravelly coarse sand to sand*.	SW-SM*	A-1-a*	0	0-10	60-100	25-50	10-40	2-10	0-0	NP
UmqA:												
Urban land.												
Sleeth----------	0-9	Loam*----------	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	85-100	75-90	50-75	21-40	4-15
	9-14	Loam*, silt loam.	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	85-100	75-90	50-75	21-40	4-15
	14-38	Clay loam*, loam, sandy clay loam.	CL*	A-6*, A-7	0	0	90-98	85-98	55-95	50-75	30-43	11-21
	38-50	Gravelly clay loam*, gravelly sandy clay loam, gravelly loam, gravelly sandy loam.	SC*, CL	A-6*, A-7	0	0-3	75-92	55-75	30-70	15-55	25-43	7-21
	50-60	Stratified gravelly coarse sand to gravelly sand to sand to gravelly loamy coarse sand*, stratified very gravelly coarse sand.	SW-SM*, SW	A-1-b*	0-1	0-10	75-92	35-85	18-35	0-10	0-0	NP
UnnA:												
Urban land.												

Table 16.--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	
UnnA:												
Westland--------	0-10	Clay loam*-------	CL*	A-6*, A-7	0	0	92-100	92-100	80-95	55-75	30-41	10-20
	10-42	Clay loam*, gravelly clay loam, sandy clay loam.	CL*	A-7-6*, A-6	0	0	75-98	45-92	40-85	35-65	35-55	15-35
	42-49	Gravelly clay loam*, gravelly sandy clay loam, clay loam, loam, sandy loam.	SC*, CL, ML, SM	A-6*, A-2-4, A-2-6, A-4	0	0-3	75-98	45-92	40-85	25-65	20-40	4-18
	49-60	Stratified gravelly coarse sand to very gravelly loamy coarse sand*.	SP-SM*, SW, SW-SM	A-1-a*	0-1	0-5	60-92	35-75	15-40	0-10	0-0	NP
Usl:												
Udorthents, rubbish.												
W:												
Water.												
WaaAV:												
Wakeland--------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-100	16-28	3-9
	7-29	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-100	16-28	3-9
	29-60	Stratified silt loam to loam*.	CL-ML*, CL, ML	A-4*	0	0	100	100	85-100	60-100	16-28	3-9
WaaAW:												
Wakeland--------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-100	16-28	3-9
	7-29	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-100	16-28	3-9
	29-60	Stratified silt loam to loam*.	CL-ML*, CL, ML	A-4*	0	0	100	100	85-100	60-100	16-28	3-9
WacAW:												
Wakeland--------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-100	16-28	3-9
	7-29	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-100	16-28	3-9
	29-60	Stratified silt loam to loam*.	CL-ML*, CL, ML	A-4*	0	0	100	100	85-100	60-100	16-28	3-9
Birds-----------	0-8	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	90-100	80-100	23-36	3-12
	8-43	Silt loam*-------	CL-ML*, ML, CL	A-4*, A-6	0	0	100	100	90-100	80-100	23-36	3-12
	43-60	Stratified silt loam to loam*.	CL-ML*, ML, CL	A-4*, A-6	0	0	100	95-100	75-100	55-90	20-36	3-12

Table 16.--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	
WbiAW:												
Wilbur----------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	95-100	70-100	20-30	3-10
	7-32	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	95-100	80-100	20-30	3-10
	32-60	Stratified silt loam to loam*.	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	80-100	60-100	20-35	3-15
Wakeland--------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-100	16-28	3-9
	7-29	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	90-100	80-100	16-28	3-9
	29-60	Stratified silt loam to loam*.	CL-ML*, CL, ML	A-4*	0	0	100	100	85-100	60-100	16-28	3-9
WdlC2:												
Wawaka----------	0-4	Loam*, silt loam.	CL-ML*, CL, ML	A-4*, A-6	0	0	95-100	95-100	85-100	55-90	20-40	3-17
	4-30	Clay loam*-------	CL*	A-6*	0-1	0-5	90-100	85-100	70-95	50-85	30-50	12-32
	30-45	Loam*----------	CL-ML*, CL, SM, ML, SC	A-4*, A-6	0-1	0-5	85-95	80-90	70-85	45-65	15-30	NP-15
	45-80	Sandy clay loam*, sandy loam, loam, gravelly sandy loam.	SC*, ML, SM, CL	A-4*, A-2, A-6	0	0	75-100	65-100	35-85	20-60	14-40	NP-18
WdrB2:												
Wawaka----------	0-7	Silt loam*, loam.	CL*, ML	A-4*, A-6	0	0	98-100	95-100	85-100	65-90	20-40	3-17
	7-23	Silty clay loam*, clay loam.	CL*	A-6*, A-7-6	0	0	95-100	90-100	80-95	60-90	35-50	15-30
	23-57	Clay loam*-------	CL*	A-6*	0-1	0-5	90-100	85-100	70-95	50-85	30-50	12-32
	57-66	Loam*----------	CL-ML*, CL, SM, ML, SC	A-4*, A-6	0-1	0-5	85-95	80-90	70-85	45-65	15-30	NP-15
	66-80	Sandy clay loam*, sandy loam, loam, gravelly sandy loam.	SC*, ML, SM, CL	A-4*, A-2, A-6	0	0	75-100	65-100	35-85	20-60	14-40	NP-18
WokAW:												
Wilbur----------	0-7	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	95-100	70-100	20-30	3-10
	7-32	Silt loam*-------	CL-ML*, CL, ML	A-4*	0	0	100	100	95-100	80-100	20-30	3-10
	32-60	Stratified silt loam to loam*.	CL-ML*, CL, ML	A-4*, A-6	0	0	100	100	80-100	60-100	20-35	3-15
WolAV:												
Wilhite---------	0-9	Silty clay*------	CL*, CH	A-7-6*	0	0	100	100	95-100	90-100	40-60	15-32
	9-38	Silty clay*, silty clay loam.	CL*, ML, CH	A-7-6*, A-6	0	0	100	100	95-100	90-100	35-60	10-32
	38-60	Silty clay*, silty clay loam.	CL*, CH, ML	A-7-6*, A-6	0	0	100	100	90-100	85-95	35-60	10-32
WprAV:												
Wirt----------	0-8	Loam*, silt loam.	CL-ML*, CL, ML	A-4*	0	0	98-100	95-100	80-100	60-90	18-30	3-10
	8-38	Loam*, sandy loam, silt loam.	CL-ML*, CL, ML, SC, SM	A-4*, A-2-4	0	0	95-100	80-100	50-100	25-85	15-30	2-10
	38-60	Stratified loam to gravelly sandy loam to loamy sand*.	SM*, CL-ML, ML, SC-SM	A-2-4*, A-1-B, A-4	0	0-2	80-100	50-100	30-95	15-75	0-24	NP-7

Table 16.--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	
WprAW:												
Wirt----------	0-8	Loam*, silt loam.	CL-ML*, CL, ML	A-4*	0	0	98-100	95-100	80-100	60-90	18-30	3-10
	8-38	Loam*, sandy loam, silt loam.	CL-ML*, CL, ML, SC, SM	A-4*, A-2-4	0	0	95-100	80-100	50-100	25-85	15-30	2-10
	38-60	Stratified loam to gravelly sandy loam to loamy sand*.	SM*, CL-ML, ML, SC-SM	A-2-4*, A-1-B, A-4	0	0-2	80-100	50-100	30-95	15-75	0-24	NP-7
WqlA:												
Westland--------	0-10	Clay loam*-------	CL*	A-6*, A-7	0	0	92-100	92-100	80-95	55-75	30-41	10-20
	10-42	Clay loam*, gravelly clay loam, sandy clay loam.	CL*	A-7-6*, A-6	0	0	75-98	45-92	40-85	35-65	35-55	15-35
	42-49	Gravelly clay loam*, gravelly sandy clay loam, clay loam, loam, sandy loam.	SC*, CL, ML, SM	A-6*, A-2-4, A-2-6, A-4	0	0-3	75-98	45-92	40-85	25-65	20-40	4-18
	49-60	Stratified gravelly coarse sand to very gravelly loamy coarse sand*.	SP-SM*, SW, SW-SM	A-1-a*	0-1	0-5	60-92	35-75	15-40	0-10	0-0	NP
WqlAQ:												
Westland--------	0-10	Clay loam*-------	CL*	A-6*, A-7	0	0	92-100	92-100	80-95	55-75	30-41	10-20
	10-42	Clay loam*, gravelly clay loam, sandy clay loam.	CL*	A-7-6*, A-6	0	0	75-98	45-92	40-85	35-65	35-55	15-35
	42-49	Gravelly clay loam*, gravelly sandy clay loam, clay loam, loam, sandy loam.	SC*, CL, ML, SM	A-6*, A-2-4, A-2-6, A-4	0	0-3	75-98	45-92	40-85	25-65	20-40	4-18
	49-60	Stratified gravelly coarse sand to very gravelly loamy coarse sand*.	SP-SM*, SW, SW-SM	A-1-a*	0-1	0-5	60-92	35-75	15-40	0-10	0-0	NP
WsuA:												
Whitaker--------	0-9	Loam*----------	CL*, CL-ML, ML	A-4*, A-6	0	0	92-100	92-100	75-85	55-65	15-25	3-20
	9-17	Loam*----------	CL*, CL-ML, ML	A-4*, A-6	0	0	92-100	92-100	75-90	55-65	15-40	3-20
	17-39	Sandy clay loam*, clay loam, loam, sandy loam.	CL*, CL-ML	A-6*, A-4	0	0	92-100	92-100	80-90	40-75	20-50	5-30
	39-48	Sandy loam*, loam, sandy clay loam.	CL*, CL-ML	A-4*, A-6	0	0	92-100	92-100	65-95	40-75	20-40	5-20
	48-60	Stratified sand to sandy loam to loam to silt loam*.	SC-SM*, CL-ML, ML, SM	A-2-4*, A-4	0	0	85-100	80-100	55-95	10-85	0-40	NP-10

Table 16.--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	
WsyAQ:												
Whitaker--------	0-10	Sandy loam*------	SM*, SC-SM, SC	A-2-4*, A-4	0	0	95-100	85-100	50-70	25-40	15-25	NP-10
	10-25	Sandy loam*------	SM*, SC, SC-SM	A-2-4*, A-4	0	0	95-100	85-100	50-70	25-40	15-25	NP-10
	25-49	Sandy loam*, sandy clay loam.	SC-SM*, CL, ML, SC, SM	A-4*, A-2-4	0	0	95-100	85-100	50-85	25-55	17-30	1-14
	49-56	Sandy loam*, coarse sandy loam.	SM*, SC-SM, SC	A-2-4*, A-4	0	0	95-100	85-100	50-70	25-40	15-25	NP-10
	56-80	Stratified coarse sand to sand*.	SP-SM*, SM, SP	A-1-b*, A-3	0	0	85-100	75-100	30-70	4-15	0-0	NP
WufB2:												
Williamstown----	0-9	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	98-100	95-100	80-98	75-90	22-35	3-12
	9-33	Clay loam*, silty clay loam.	CL*	A-7-6*, A-6, A-7	0	0-3	95-100	85-98	70-90	55-75	35-48	15-30
	33-37	Loam*, fine sandy loam.	CL*, CL-ML	A-6*, A-4	0	0-3	85-98	75-90	70-90	50-70	20-34	7-16
	37-80	Loam*, fine sandy loam.	CL*, CL-ML, SC, SC-SM, ML	A-4*, A-6	0-1	0-3	85-98	75-90	65-80	40-60	15-30	3-15
XabB2:												
Xenia-----------	0-8	Silt loam*-------	CL-ML*, CL	A-4*	0	0	100	100	95-100	75-95	20-30	4-10
	8-30	Silty clay loam*	CL*, CL-ML	A-6*, A-4, A-7	0	0	100	100	95-100	75-95	25-45	5-25
	30-50	Clay loam*, loam.	CL*	A-6*, A-7	0	0-1	95-100	90-95	75-95	60-80	30-50	10-30
	50-58	Loam*, clay loam.	CL*, CL-ML	A-6*, A-4	0	0-2	90-100	90-95	75-95	55-80	20-50	3-30
	58-80	Loam*, fine sandy loam.	CL*, CL-ML	A-4*, A-6	0	0-1	90-100	90-95	75-90	45-70	15-30	3-15
XfuB2:												
Miami-----------	0-8	Silt loam*-------	CL*, ML, CL-ML	A-4*, A-6	0	0	95-100	92-100	85-100	75-90	20-30	3-15
	8-13	Silty clay loam*, silt loam.	CL*, CL-ML	A-6*, A-4	0	0-1	95-100	92-100	85-98	75-90	25-55	5-35
	13-31	Clay loam*, silty clay loam.	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-98	75-95	55-85	30-50	11-31
	31-36	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-6*, A-4	0-1	0-5	90-98	85-98	65-95	40-70	15-37	3-22
	36-80	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-5	90-98	85-98	65-90	40-70	15-30	3-15
Rainsville------	0-8	Silt loam*-------	CL*, CL-ML, ML	A-4*, A-6	0	0	100	100	90-100	75-90	20-40	3-15
	8-13	Silt loam*, silty clay loam.	CL*, CL-ML	A-6*, A-4	0	0	100	100	90-100	75-90	25-55	5-35
	13-30	Loam*, sandy clay loam, clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0-1	85-100	75-98	55-90	40-65	20-60	5-30
	30-42	Loam*, clay loam, sandy clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-2-6	0	0-1	85-100	75-98	45-90	20-60	20-60	5-20
	42-48	Loam*----------	CL*, CL-ML	A-6*, A-4	0	0-1	95-100	90-100	80-95	55-70	20-40	5-25
	48-60	Loam*----------	CL*, CL-ML, SC, SM	A-4*, A-6	0-1	0-3	90-100	85-98	65-90	40-70	15-30	3-15

Table 16.--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	
XrbC2:												
Miami----------	0-8	Loam*, silt loam.	CL-ML*, CL, ML	A-4*, A-6	0	0	95-100	90-100	80-95	60-85	20-37	NP-17
	8-31	Clay loam*, silty clay loam.	CL*	A-6*, A-7-6	0-1	0-3	90-98	85-98	85-95	55-85	30-50	11-31
	31-36	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-6*, A-4	0-1	0-3	90-98	85-98	65-95	40-70	15-37	NP-22
	36-80	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-3	90-98	85-98	65-90	40-70	15-30	NP-15
Rainsville------	0-6	Loam*, silt loam.	CL-ML*, CL, ML	A-4*, A-6	0	0	95-100	90-100	80-95	60-85	20-37	NP-17
	6-30	Loam*, sandy clay loam, clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-4	0	0-1	85-100	75-98	55-90	40-65	20-60	5-30
	30-42	Loam*, sandy clay loam, clay loam.	CL*, CL-ML, SC, SC-SM	A-6*, A-2-6	0	0-1	85-100	75-98	45-90	20-60	20-60	5-20
	42-48	Loam*----------	CL*, CL-ML	A-6*, A-4	0	0-1	95-100	90-100	85-95	55-70	20-40	5-25
	48-60	Loam*----------	CL*, CL-ML, SC, SM	A-4*, A-6	0-1	0-3	90-100	85-98	65-90	40-70	15-30	3-15
XrkD2:												
Miami----------	0-7	Loam*----------	CL-ML*, CL, ML	A-4*, A-6	0	0	95-100	90-100	80-95	60-85	20-37	NP-17
	7-31	Clay loam*-------	CL*	A-6*, A-7-6	0-1	0-5	90-100	85-98	75-95	55-85	30-50	11-31
	31-36	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-6*, A-4	0-1	0-5	90-98	85-98	65-95	40-70	15-37	3-22
	36-80	Loam*, fine sandy loam.	CL*, ML, SC, SM	A-4*, A-6	0-1	0-5	90-98	85-98	65-90	40-70	15-30	3-15
Kendallville----	0-7	Loam*----------	CL*, CL-ML, ML	A-4*, A-6	0	0	95-100	90-100	80-95	60-85	20-37	1-17
	7-34	Clay loam*, sandy clay loam, gravelly loam.	CL*, CL-ML, GC	A-4*, A-6	0	0-5	70-100	60-95	50-80	45-75	25-40	5-15
	34-60	Loam*----------	CL*, CL-ML, SC, SM	A-4*, A-6	0-1	0-3	90-100	85-98	65-90	40-70	15-30	3-15
ZboA:												
Zipp----------	0-10	Silty clay loam*	CL*, CH	A-7*, A-6	0	0	100	100	95-100	85-100	35-55	15-30
	10-45	Silty clay*, silty clay loam.	CH*, CL	A-7*	0	0	100	100	95-100	80-100	42-62	20-37
	45-60	Silty clay*, silty clay loam.	CH*, CL	A-7*, A-6	0	0	100	100	95-100	80-100	35-54	15-32

Table 17a.--Physical Properties of the Soils

(Absence of an entry indicates that data were not estimated. Properties are listed as low, representative, and high values separated by a hyphen. Low and high values reflect the normally expected range. Representative values are indicative of conditions that occur most commonly.)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
AddA:									
Avonburg--------	0-11	15-18-20	62-67-75	10-15-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.6-2.0
	11-21	15-18-20	60-66-73	12-16-20	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	21-37	5-11-20	50-62-71	24-27-30	1.40-1.50-1.60	0.06-0.33-0.60	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	37-52	5-20-20	52-56-73	22-24-28	1.60-1.65-1.70	0.01-0.18-0.20	0.09-0.10-0.11	0.00-1.50-2.90	0.0-0.2-0.5
	52-83	15-20-30	50-56-65	20-24-26	1.70-1.75-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	83-90	20-30-40	30-36-40	27-34-40	1.50-1.60-1.70	0.06-0.13-0.20	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
AddB2:									
Avonburg--------	0-7	15-18-20	62-67-75	10-15-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.4-2.0
	7-16	15-18-20	60-66-73	12-16-20	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	16-32	5-11-20	50-62-71	24-27-30	1.40-1.50-1.60	0.06-0.33-0.60	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	32-42	5-20-20	52-56-73	22-24-28	1.60-1.65-1.70	0.01-0.18-0.20	0.09-0.10-0.11	0.00-1.50-2.90	0.0-0.2-0.5
	42-63	15-20-30	50-56-65	20-24-26	1.70-1.75-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	63-80	20-30-40	30-36-40	27-34-40	1.50-1.60-1.70	0.06-0.13-0.20	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
AfsB:									
Alvin----------	0-7	52-69-75	10-24-40	5-07-15	1.45-1.55-1.65	2.00-4.00-6.00	0.14-0.16-0.17	0.00-1.50-2.90	0.5-1.0-2.0
	7-10	55-71-85	5-22-35	5-07-15	1.45-1.55-1.65	2.00-4.00-6.00	0.10-0.14-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	10-40	50-74-75	5-12-30	5-14-22	1.45-1.55-1.65	2.00-4.00-6.00	0.12-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5
	40-70	75-81-95	2-09-25	5-10-18	1.40-1.53-1.65	2.00-4.00-6.00	0.10-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5
	70-80	75-89-95	2-05-15	3-06-10	1.45-1.55-1.65	6.00-13.00-20.00	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
Princeton-------	0-8	55-62-70	10-30-38	5-08-20	1.40-1.45-1.50	0.60-1.30-2.00	0.13-0.16-0.18	0.00-1.50-2.90	0.5-1.0-2.0
	8-41	40-63-75	5-18-35	18-19-25	1.50-1.55-1.60	0.60-1.30-2.00	0.07-0.16-0.18	0.00-1.50-2.90	0.5-0.8-1.0
	41-60	50-81-95	5-09-30	8-10-18	1.60-1.65-1.70	2.00-4.00-6.00	0.07-0.14-0.14	0.00-1.50-2.90	0.0-0.2-0.5
	60-80	75-90-95	1-05-20	4-05-10	1.50-1.60-1.70	6.00-13.00-20.00	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
AfsC2:									
Alvin----------	0-7	52-69-75	10-24-40	5-07-15	1.45-1.55-1.65	2.00-4.00-6.00	0.14-0.16-0.17	0.00-1.50-2.90	0.5-0.9-2.0
	7-10	55-71-85	5-22-35	5-07-15	1.45-1.55-1.65	2.00-4.00-6.00	0.10-0.14-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	10-40	50-74-75	5-12-30	5-14-22	1.45-1.55-1.65	2.00-4.00-6.00	0.12-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5
	40-70	75-81-95	2-09-25	5-10-18	1.40-1.53-1.65	2.00-4.00-6.00	0.10-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5
	70-80	75-89-95	2-05-15	3-06-10	1.45-1.55-1.65	6.00-13.00-20.00	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
Princeton-------	0-8	55-62-70	10-30-38	5-08-20	1.40-1.45-1.50	0.60-1.30-2.00	0.13-0.16-0.18	0.00-1.50-2.90	0.5-0.9-2.0
	8-41	40-63-75	5-18-35	18-19-25	1.50-1.55-1.60	0.60-1.30-2.00	0.07-0.16-0.18	0.00-1.50-2.90	0.5-0.8-1.0
	41-60	50-81-95	5-09-30	8-10-18	1.60-1.65-1.70	2.00-4.00-6.00	0.07-0.14-0.14	0.00-1.50-2.90	0.0-0.2-0.5
	60-80	75-90-95	1-05-20	4-05-10	1.50-1.60-1.70	6.00-13.00-20.00	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
AmkA:									
Ayrshire--------	0-8	50-62-70	20-30-45	5-08-12	1.40-1.55-1.70	0.60-1.30-2.00	0.10-0.16-0.21	0.00-1.50-2.90	1.0-1.5-2.0
	8-14	40-54-70	20-38-50	5-08-12	1.40-1.55-1.70	0.60-1.30-2.00	0.10-0.16-0.21	0.00-1.50-2.90	0.0-0.5-1.0
	14-35	35-52-70	10-24-40	22-24-32	1.25-1.48-1.70	0.60-1.30-2.00	0.15-0.18-0.20	0.00-1.50-2.90	0.0-0.2-0.5
	35-45	40-65-75	10-18-40	8-17-27	1.45-1.58-1.70	0.60-3.30-6.00	0.09-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5
	45-55	40-65-75	10-18-40	8-17-27	1.45-1.58-1.70	0.60-3.30-6.00	0.09-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5
	55-80	50-60-90	10-33-45	5-07-10	1.40-1.55-1.70	2.00-11.00-20.00	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
BbhA:									
Bartle----------	0-8	5-12-20	62-74-85	10-14-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.6-2.0
	8-17	5-12-15	60-72-85	12-16-20	1.40-1.50-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.2-0.5
	17-30	5-10-15	50-63-80	18-27-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0.00-1.50-2.90	0.0-0.2-0.5
	30-50	5-10-15	50-65-80	18-25-32	1.60-1.70-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	50-80	5-22-40	40-53-65	18-25-32	1.50-1.60-1.70	0.06-0.33-0.60	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
BbiB:									
Bartle----------	0-8	5-12-20	62-74-85	10-14-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.6-2.0
	8-17	5-12-15	60-72-85	12-16-20	1.40-1.50-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.2-0.5
	17-30	5-10-15	50-63-80	18-27-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0.00-1.50-2.90	0.0-0.2-0.5
	30-50	5-10-15	50-65-80	18-25-32	1.60-1.70-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	50-80	5-22-40	40-53-65	18-25-32	1.50-1.60-1.70	0.06-0.33-0.60	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
Pekin----------	0-10	3-12-20	60-73-87	10-15-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-24	3-07-18	52-71-79	18-22-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.19-0.21	0.00-1.50-2.90	0.5-0.8-1.0
	24-45	3-09-18	50-65-77	20-26-32	1.70-1.75-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	45-80	2-20-70	30-58-60	10-22-30	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
BcrAW:									
Beanblossom-----	0-5	10-18-35	45-65-70	12-17-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	5-24	10-19-50	40-65-75	10-16-22	1.40-1.45-1.50	2.00-4.00-6.00	0.09-0.18-0.21	0.00-1.50-2.90	1.0-1.5-2.0
	24-54	15-40-50	30-43-65	10-17-24	1.40-1.45-1.50	2.00-11.00-20.00	0.04-0.09-0.14	0.00-1.50-2.90	0.5-0.8-1.0
	54-60	---	---	---	---	0.00-0.01-0.06	---	---	---
BdhAH:									
Bellcreek-------	0-10	5-14-25	40-51-60	30-35-40	1.40-1.50-1.60	0.20-0.40-0.60	0.17-0.20-0.23	3.00-4.50-5.90	3.0-4.0-6.0
	10-48	5-14-25	35-43-55	35-42-50	1.40-1.50-1.60	0.20-0.40-0.60	0.11-0.16-0.20	6.00-7.50-8.90	0.5-1.2-2.0
	48-64	10-16-25	35-46-55	30-38-45	1.40-1.50-1.60	0.20-0.40-0.60	0.11-0.16-0.20	3.00-6.50-8.90	0.5-1.2-2.0
	64-80	15-52-80	15-30-45	5-18-30	1.40-1.55-1.70	0.60-1.30-1.98	0.08-0.12-0.16	0.00-1.50-2.90	0.5-1.8-3.0
BfbAH:									
Bellcreek-------	0-10	5-19-25	40-55-60	20-26-27	1.40-1.50-1.60	0.20-0.40-0.60	0.17-0.20-0.23	3.00-4.50-5.90	3.0-4.0-6.0
	10-48	5-14-25	35-43-55	35-42-50	1.40-1.50-1.60	0.20-0.40-0.60	0.11-0.16-0.20	6.00-7.50-8.90	0.5-1.2-2.0
	48-64	10-16-25	35-46-55	30-38-45	1.40-1.50-1.60	0.20-0.40-0.60	0.11-0.16-0.20	3.00-6.50-8.90	0.5-1.2-2.0
	64-80	15-52-80	15-30-45	5-18-30	1.40-1.55-1.70	0.60-1.30-1.98	0.08-0.12-0.16	0.00-1.50-2.90	0.5-1.8-3.0
BgeAW:									
Birds----------	0-8	4-10-20	60-70-80	15-20-25	1.30-1.40-1.50	0.60-1.30-2.00	0.21-0.23-0.25	0.00-1.50-2.90	1.0-2.0-3.0
	8-43	4-10-20	60-69-80	18-21-26	1.40-1.50-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	43-60	4-10-40	40-69-75	15-21-26	1.35-1.48-1.60	0.20-0.40-0.60	0.17-0.21-0.24	0.00-1.50-2.90	0.0-0.2-0.5
BlgC2:									
Blocher---------	0-6	5-15-25	50-67-80	12-18-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	6-26	5-10-25	45-62-75	20-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0.00-1.50-2.90	0.5-0.8-1.0
	26-66	25-28-35	15-32-45	35-40-45	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	66-76	25-34-38	20-31-48	30-35-40	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	76-80	25-40-45	30-34-48	16-26-28	1.50-1.60-1.70	0.06-0.33-0.60	0.08-0.11-0.13	0.00-1.50-2.90	0.0-0.2-0.5
Cincinnati------	0-8	5-11-26	60-70-80	14-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	8-24	5-08-28	50-66-70	22-26-30	1.45-1.55-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	24-74	10-26-40	40-51-60	20-23-26	1.60-1.73-1.85	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	74-80	10-26-40	30-42-49	25-32-40	1.55-1.65-1.75	0.06-0.13-0.20	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
BlgC3:									
Blocher---------	0-5	3-15-25	50-61-80	16-24-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	5-18	5-10-25	45-62-75	20-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0.00-1.50-2.90	0.5-0.8-1.0
	18-47	25-28-35	15-32-45	35-40-45	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	47-64	25-34-38	20-31-48	30-35-40	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	64-80	25-40-45	30-34-48	16-26-28	1.50-1.60-1.70	0.06-0.33-0.60	0.08-0.11-0.13	0.00-1.50-2.90	0.0-0.2-0.5
Cincinnati------	0-5	3-08-25	60-68-80	18-24-27	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	5-14	5-08-25	50-66-70	22-26-30	1.45-1.55-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	14-35	20-25-30	40-52-60	20-23-30	1.60-1.73-1.85	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	35-78	20-26-35	30-42-49	25-32-39	1.55-1.65-1.75	0.06-0.13-0.20	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
	78-84	25-40-45	30-35-48	20-25-34	1.55-1.65-1.75	0.06-0.13-0.20	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
BlhD2:									
Blocher---------	0-6	5-15-25	50-68-83	12-17-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	6-22	5-10-25	45-62-75	20-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0.00-1.50-2.90	0.5-0.8-1.0
	22-66	25-35-35	15-25-45	35-40-45	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	66-76	25-34-35	20-31-50	30-35-40	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	76-80	25-40-45	33-34-50	16-26-28	1.50-1.60-1.70	0.06-0.33-0.60	0.08-0.11-0.13	0.00-1.50-2.90	0.0-0.2-0.5
Bonnell---------	0-6	5-15-25	50-65-75	10-20-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	6-9	12-20-32	40-54-65	20-26-32	1.40-1.50-1.60	0.60-1.30-2.00	0.18-0.20-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	9-44	15-20-35	31-38-45	35-42-48	1.50-1.60-1.70	0.20-1.10-2.00	0.11-0.13-0.15	6.00-7.50-8.90	0.0-0.5-1.0
	44-70	20-30-44	25-41-45	24-29-34	1.50-1.55-1.60	0.20-0.40-0.60	0.12-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	70-80	25-40-50	24-34-40	18-26-34	1.60-1.70-1.80	0.06-0.33-0.60	0.04-0.08-0.12	3.00-4.50-5.90	0.0-0.2-0.5
BluC:									
Bloomfield------	0-9	75-86-95	5-11-15	2-03-10	1.45-1.55-1.65	6.00-13.00-20.00	0.09-0.10-0.13	0.00-1.50-2.90	0.5-0.9-1.5
	9-33	75-89-95	3-05-15	2-06-10	1.45-1.55-1.65	6.00-13.00-20.00	0.08-0.10-0.12	0.00-1.50-2.90	0.0-0.5-1.0
	33-72	75-89-95	3-05-15	5-06-13	1.60-1.70-1.80	2.00-11.00-20.00	0.08-0.10-0.12	0.00-1.50-2.90	0.0-0.5-1.0
	72-80	75-90-95	3-05-15	2-05-13	1.60-1.70-1.80	6.00-13.00-20.00	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.5-1.0
Alvin----------	0-7	75-86-95	5-11-15	2-03-10	1.45-1.55-1.65	6.00-13.00-20.00	0.09-0.10-0.13	0.00-1.50-2.90	0.5-0.9-1.5
	7-10	70-71-85	5-22-27	5-07-15	1.45-1.55-1.65	2.00-4.00-6.00	0.10-0.14-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	10-40	50-74-75	5-12-30	5-14-22	1.45-1.55-1.65	2.00-4.00-6.00	0.12-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5
	40-70	75-81-95	2-09-25	5-10-18	1.40-1.53-1.65	2.00-4.00-6.00	0.10-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5
	70-80	75-89-95	2-05-15	3-06-10	1.45-1.55-1.65	6.00-13.00-20.00	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
BnuD3:									
Bonnell---------	0-3	20-23-35	31-47-50	27-30-34	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.15-0.18	3.00-4.50-5.90	0.5-1.2-2.0
	3-32	20-25-35	25-34-45	35-41-48	1.50-1.60-1.70	0.20-1.10-2.00	0.11-0.13-0.15	6.00-7.50-8.90	0.0-0.5-1.0
	32-54	20-31-45	25-39-45	24-30-34	1.50-1.55-1.60	0.20-0.40-0.60	0.12-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	54-80	30-40-50	24-35-40	18-25-34	1.60-1.70-1.80	0.06-0.33-0.60	0.04-0.08-0.12	3.00-4.50-5.90	0.0-0.2-0.5
Hickory---------	0-4	20-30-40	26-39-50	27-31-34	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.15-0.18	3.00-4.50-5.90	0.1-1.2-2.0
	4-38	20-30-40	25-39-50	24-31-35	1.45-1.55-1.65	0.60-1.30-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	38-44	25-40-50	25-36-45	15-24-32	1.50-1.60-1.70	0.60-1.30-2.00	0.11-0.15-0.19	0.00-1.50-2.90	0.0-0.2-0.5
	44-60	30-40-50	25-40-49	15-20-30	1.50-1.63-1.75	0.60-1.30-2.00	0.10-0.13-0.15	0.00-1.50-2.90	0.0-0.2-0.5
Blocher---------	0-4	5-15-25	50-61-80	16-24-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	4-18	5-10-25	45-62-75	20-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0.00-1.50-2.90	0.5-0.8-1.0
	18-47	25-28-35	15-32-45	35-40-45	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	47-64	25-34-38	20-31-48	30-35-40	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	64-80	25-40-45	30-34-48	16-26-28	1.50-1.60-1.70	0.06-0.33-0.60	0.08-0.11-0.13	0.00-1.50-2.90	0.0-0.2-0.5
BobE5:									
Bonnell, gullied	0-3	20-23-35	31-47-50	27-30-34	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.15-0.18	3.00-4.50-5.90	0.1-0.8-1.0
	3-25	20-25-35	25-34-45	35-41-48	1.50-1.60-1.70	0.20-1.10-2.00	0.11-0.13-0.15	6.00-7.50-8.90	0.0-0.5-1.0
	25-38	20-31-45	25-39-45	24-30-34	1.50-1.55-1.60	0.20-0.40-0.60	0.12-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	38-60	30-40-50	24-35-40	18-25-34	1.60-1.70-1.80	0.06-0.33-0.60	0.04-0.08-0.12	3.00-4.50-5.90	0.0-0.2-0.5
Hickory, gullied	0-3	20-30-40	26-39-50	27-31-34	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.15-0.18	3.00-4.50-5.90	0.1-0.8-1.0
	3-35	20-30-40	25-39-50	24-31-35	1.45-1.55-1.65	0.60-1.30-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	35-40	25-40-50	25-36-45	15-24-32	1.50-1.60-1.70	0.60-1.30-2.00	0.11-0.15-0.19	0.00-1.50-2.90	0.0-0.2-0.5
	40-60	30-40-50	25-40-49	15-20-30	1.50-1.63-1.75	0.60-1.30-2.00	0.10-0.13-0.15	0.00-1.50-2.90	0.0-0.2-0.5
BodAV:									
Bonnie----------	0-20	5-10-15	59-70-77	18-20-26	1.30-1.40-1.50	0.60-1.30-2.00	0.22-0.24-0.25	0.00-1.50-2.90	1.0-1.7-3.0
	20-31	5-10-15	59-66-77	18-24-26	1.35-1.45-1.55	0.60-1.30-2.00	0.21-0.23-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	31-60	5-10-15	55-66-75	18-24-30	1.35-1.45-1.55	0.20-0.40-0.60	0.14-0.19-0.24	0.00-1.50-2.90	0.0-0.5-1.0
CldB2:									
Cincinnati------	0-8	5-11-26	60-70-80	14-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	8-31	5-08-28	50-66-70	22-26-30	1.45-1.55-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	31-72	10-26-40	40-51-60	20-23-26	1.60-1.73-1.85	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	72-80	10-26-40	30-42-49	25-32-40	1.55-1.65-1.75	0.06-0.13-0.20	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
CldB2:									
Blocher---------	0-7	5-15-25	50-67-80	12-18-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	7-32	5-10-25	45-62-75	20-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	0.00-1.50-2.90	0.5-0.8-1.0
	32-66	25-28-35	15-32-45	35-40-45	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	66-76	25-34-38	20-31-48	30-35-40	1.50-1.60-1.70	0.06-0.13-0.20	0.11-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	76-80	25-40-45	30-34-48	16-26-28	1.50-1.60-1.70	0.06-0.33-0.60	0.08-0.11-0.13	0.00-1.50-2.90	0.0-0.2-0.5
ClfA:									
Cobbsfork-------	0-12	12-17-24	61-70-78	10-13-15	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.6-3.0
	12-18	12-17-24	50-65-78	10-18-26	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	18-38	10-13-20	50-63-70	20-24-30	1.40-1.50-1.60	0.20-1.10-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	38-50	18-19-28	44-60-62	20-21-28	1.60-1.70-1.80	0.01-0.18-0.20	0.08-0.12-0.15	0.00-1.50-2.90	0.0-0.2-0.5
	50-85	18-22-28	46-56-62	20-22-26	1.60-1.70-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	85-90	25-28-35	27-39-48	27-33-38	1.50-1.60-1.70	0.01-0.06-0.06	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
CmbAW:									
Cohoctah--------	0-15	35-45-50	27-38-50	10-17-20	1.30-1.45-1.60	2.00-4.00-6.00	0.12-0.18-0.24	0.00-1.50-2.90	3.0-3.0-6.0
	15-39	50-53-70	20-32-40	5-15-20	1.50-1.60-1.70	2.00-4.00-6.00	0.10-0.15-0.20	0.00-1.50-2.90	0.5-1.2-2.0
	39-70	50-61-80	20-29-40	5-10-20	1.50-1.60-1.70	2.00-4.00-6.00	0.10-0.15-0.20	0.00-1.50-2.90	0.5-0.8-1.0
CmzA:									
Cliftycreek-----	0-10	10-18-25	50-66-70	12-16-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.5-3.0
	10-14	15-19-35	50-54-70	24-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.16-0.20-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	14-56	15-26-45	20-40-55	27-34-45	1.60-1.70-1.80	0.20-1.10-2.00	0.12-0.16-0.19	3.00-4.50-5.90	0.5-0.8-1.0
	56-64	3-12-18	20-43-65	30-45-60	1.50-1.60-1.70	0.20-0.40-1.70	0.07-0.12-0.16	3.00-4.50-5.90	0.5-0.8-1.0
	64-70	3-12-18	25-43-65	35-45-60	1.50-1.60-1.70	0.20-0.40-1.70	0.07-0.12-0.16	3.00-4.50-5.90	0.5-0.8-1.0
	70-80	---	---	---	---	0.00-0.10-0.20	---	---	---
CmzB2:									
Cliftycreek-----	0-8	10-18-25	50-66-70	12-16-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.4-3.0
	8-14	15-19-35	50-54-70	24-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.16-0.20-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	14-56	15-26-45	20-40-55	27-34-45	1.60-1.70-1.80	0.20-1.10-2.00	0.12-0.16-0.19	3.00-4.50-5.90	0.5-0.8-1.0
	56-64	3-12-18	20-43-65	30-45-60	1.50-1.60-1.70	0.20-0.40-1.70	0.07-0.12-0.16	3.00-4.50-5.90	0.5-0.8-1.0
	64-70	3-12-18	20-43-65	35-45-60	1.50-1.60-1.70	0.20-0.40-1.70	0.07-0.12-0.16	3.00-4.50-5.90	0.5-0.8-1.0
	70-80	---	---	---	---	0.00-0.10-0.20	---	---	---
CmzC2:									
Cliftycreek-----	0-7	10-18-25	50-66-70	12-16-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.2-3.0
	7-14	15-19-35	50-54-70	24-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.16-0.20-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	14-56	15-26-45	20-40-55	27-34-45	1.60-1.70-1.80	0.20-1.10-2.00	0.12-0.16-0.19	3.00-4.50-5.90	0.5-0.8-1.0
	56-64	3-12-18	20-43-65	30-45-60	1.50-1.60-1.70	0.20-0.40-1.70	0.07-0.12-0.16	3.00-4.50-5.90	0.5-0.8-1.0
	64-70	3-12-18	20-43-65	35-45-60	1.50-1.60-1.70	0.20-0.40-1.70	0.07-0.12-0.16	3.00-4.50-5.90	0.5-0.8-1.0
	70-80	---	---	---	---	0.00-0.10-0.20	---	---	---
ColD2:									
Coolville-------	0-5	1-03-10	64-79-87	12-18-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	5-18	1-03-05	56-66-72	27-31-39	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	18-39	1-04-12	40-54-64	35-42-58	1.40-1.53-1.65	0.06-0.13-0.20	0.10-0.13-0.15	3.00-4.50-5.90	0.0-0.2-0.5
	39-45	1-05-10	40-62-69	30-33-58	1.40-1.53-1.65	0.01-0.10-0.20	0.08-0.10-0.12	3.00-4.50-5.90	0.0-0.2-0.5
	45-60	---	---	---	---	0.00-0.01-0.06	---	---	---
Rarden----------	0-6	1-03-10	75-79-90	12-18-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	6-28	1-04-10	35-50-62	35-46-60	1.40-1.50-1.60	0.06-0.13-0.20	0.10-0.12-0.14	3.00-4.50-5.90	0.0-0.5-1.0
	28-37	1-04-10	40-54-65	30-42-58	1.40-1.53-1.65	0.01-0.10-0.20	0.06-0.09-0.12	3.00-4.50-5.90	0.0-0.2-0.5
	37-60	---	---	---	---	0.00-0.01-0.06	---	---	---
Stonehead-------	0-5	1-02-10	64-78-86	12-20-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	5-30	2-04-05	60-68-72	26-28-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	30-46	1-04-05	35-46-61	38-50-60	1.45-1.53-1.60	0.06-0.13-0.20	0.09-0.12-0.15	3.00-4.50-5.90	0.0-0.2-0.5
	46-65	2-05-08	40-62-64	28-33-38	1.45-1.53-1.60	0.06-0.13-0.20	0.06-0.11-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	65-80	---	---	---	---	0.00-0.01-0.06	---	---	---

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
ConC3:									
Coolville-------	0-4	1-03-10	65-74-82	17-23-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.20-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	4-17	1-03-05	56-66-72	27-31-39	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	17-38	1-04-12	40-54-64	35-42-58	1.40-1.53-1.65	0.06-0.13-0.20	0.10-0.13-0.15	3.00-4.50-5.90	0.0-0.2-0.5
	38-43	1-05-10	40-62-69	30-33-58	1.40-1.53-1.65	0.01-0.10-0.20	0.08-0.10-0.12	3.00-4.50-5.90	0.0-0.2-0.5
	43-60	---	---	---	---	0.00-0.01-0.06	---	---	---
Rarden----------	0-6	1-05-10	52-63-72	27-32-38	1.35-1.45-1.55	0.20-0.40-0.60	0.20-0.22-0.23	3.00-4.50-5.90	0.5-1.2-2.0
	6-28	1-04-10	30-50-62	35-46-60	1.40-1.50-1.60	0.06-0.13-0.20	0.10-0.12-0.14	3.00-4.50-5.90	0.0-0.5-1.0
	28-37	1-04-10	40-54-65	30-42-58	1.40-1.53-1.65	0.01-0.10-0.20	0.06-0.09-0.12	3.00-4.50-5.90	0.0-0.2-0.5
	37-60	---	---	---	---	0.00-0.01-0.06	---	---	---
CudA:									
Crosby----------	0-8	15-20-30	50-63-75	10-17-24	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.21-0.26	0.00-1.50-2.90	1.0-2.0-3.0
	8-11	15-20-30	50-63-75	10-17-24	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.21-0.26	0.00-1.50-2.90	1.0-1.5-2.0
	11-14	15-21-30	50-55-70	20-24-28	1.45-1.55-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	0.5-0.8-1.0
	14-28	10-21-30	35-43-60	35-36-45	1.45-1.55-1.65	0.60-1.30-2.00	0.07-0.14-0.21	3.00-4.50-5.90	0.5-0.8-1.0
	28-36	25-36-55	30-40-50	12-24-35	1.55-1.65-1.75	0.06-0.13-0.20	0.07-0.12-0.17	0.00-2.50-5.90	0.0-0.2-0.5
	36-80	30-40-60	28-45-50	10-15-25	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0.00-1.50-2.90	0.0-0.2-0.5
CulB:									
Crosby----------	0-8	15-20-30	50-63-75	10-17-24	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.21-0.26	0.00-1.50-2.90	1.0-2.0-3.0
	8-11	15-20-30	50-63-75	10-17-24	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.21-0.26	0.00-1.50-2.90	1.0-1.5-2.0
	11-14	15-21-30	50-55-70	20-24-28	1.45-1.55-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	0.5-0.8-1.0
	14-28	10-21-30	35-43-60	35-36-45	1.45-1.55-1.65	0.60-1.30-2.00	0.07-0.14-0.21	3.00-4.50-5.90	0.5-0.8-1.0
	28-36	25-36-55	30-40-50	12-24-35	1.55-1.65-1.75	0.06-0.13-0.20	0.07-0.12-0.17	0.00-2.50-5.90	0.0-0.2-0.5
	36-80	30-40-60	28-45-50	10-15-25	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0.00-1.50-2.90	0.0-0.2-0.5
Williamstown----	0-9	10-19-25	50-61-70	14-20-26	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.23-0.24	0.00-1.50-2.90	1.0-1.5-3.0
	9-33	15-35-45	20-35-55	27-30-35	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.14-0.16	3.00-4.50-5.90	0.5-0.8-1.0
	33-37	25-45-60	20-35-50	18-20-27	1.60-1.70-1.80	0.20-0.40-0.60	0.04-0.12-0.12	0.00-1.50-2.90	0.0-0.2-0.5
	37-80	35-45-60	20-40-50	12-15-26	1.75-1.80-2.00	0.01-0.03-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
CxdA:									
Cyclone---------	0-17	10-17-18	50-53-67	27-30-35	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	3.00-4.50-5.90	3.0-4.5-6.0
	17-52	2-12-19	44-57-66	25-31-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	52-58	16-20-40	44-49-66	20-31-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	58-65	26-35-44	38-45-49	15-20-25	1.50-1.60-1.70	0.20-0.40-0.60	0.12-0.14-0.16	0.00-1.50-2.90	0.5-0.8-1.0
	65-80	30-40-56	34-45-50	9-15-25	1.60-1.65-1.75	0.20-0.40-0.60	0.02-0.03-0.04	0.00-1.50-2.90	0.5-0.8-1.0
DbqE:									
Deam, very deep----------	0-11	2-05-10	64-72-80	18-23-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	11-20	2-05-10	55-65-78	20-30-35	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.5-0.8-1.0
	20-90	0-02-05	50-58-65	35-40-45	1.40-1.50-1.60	0.20-0.40-0.60	0.11-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
EcyAH:									
Eel----------	0-8	20-32-35	45-49-60	15-19-27	1.35-1.45-1.45	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-34	25-38-52	20-37-55	15-25-30	1.40-1.50-1.55	0.60-1.30-2.00	0.15-0.18-0.20	0.00-1.50-2.90	1.0-2.0-3.0
	34-60	20-45-60	20-35-55	15-20-30	1.40-1.50-1.55	0.60-1.30-2.00	0.15-0.18-0.20	0.00-1.50-2.90	1.0-2.0-3.0
	60-80	20-53-90	8-31-55	8-16-30	1.45-1.55-1.60	0.60-3.30-6.00	0.15-0.18-0.20	0.00-1.50-2.90	0.5-1.2-2.0
EcyAW:									
Eel----------	0-8	20-32-35	45-47-60	15-21-27	1.35-1.45-1.45	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-34	25-38-52	20-37-55	15-25-30	1.40-1.50-1.55	0.60-1.30-2.00	0.15-0.18-0.20	0.00-1.50-2.90	1.0-2.0-3.0
	34-60	20-45-60	20-35-55	15-20-30	1.40-1.50-1.55	0.60-1.30-2.00	0.15-0.18-0.20	0.00-1.50-2.90	1.0-2.0-3.0
	60-80	20-53-90	8-31-55	8-16-30	1.45-1.55-1.60	0.60-3.30-6.00	0.15-0.18-0.20	0.00-1.50-2.90	0.5-1.2-2.0
EdeAW:									
Eel----------	0-8	10-20-30	50-61-75	15-19-26	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-34	25-38-52	20-37-55	15-25-30	1.40-1.50-1.55	0.60-1.30-2.00	0.15-0.18-0.20	0.00-1.50-2.90	1.0-2.0-3.0
	34-60	20-45-60	20-35-55	15-20-30	1.40-1.50-1.55	0.60-1.30-2.00	0.15-0.18-0.20	0.00-1.50-2.90	1.0-2.0-3.0
	60-80	20-53-90	8-31-55	8-16-30	1.45-1.55-1.60	0.60-3.30-6.00	0.15-0.18-0.20	0.00-1.50-2.90	0.5-1.2-2.0

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
EepAQ:									
Elkinsville-----	0-9	10-14-20	62-73-80	8-13-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-24	8-12-25	50-62-65	18-26-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	24-58	25-40-55	15-36-50	20-24-30	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	58-68	29-40-70	20-36-47	16-24-31	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	68-80	35-50-75	20-30-40	14-20-26	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.16-0.19	0.00-1.50-2.90	0.0-0.2-0.5
FdbA:									
Fincastle-------	0-10	10-13-25	55-70-75	11-17-26	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-13	10-13-25	55-70-75	11-17-26	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	13-27	5-10-20	45-61-65	23-29-35	1.40-1.50-1.70	0.60-1.30-2.00	0.14-0.19-0.21	3.00-4.50-5.90	0.5-0.8-1.0
	27-50	25-40-50	25-32-45	25-28-32	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.16-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	50-59	30-45-50	25-35-45	12-20-30	1.75-1.80-2.00	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	59-80	35-45-60	20-40-50	12-15-26	1.75-1.80-2.00	0.01-0.03-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
FdqB:									
Fincastle-------	0-10	10-13-25	55-70-75	11-17-26	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-13	10-13-25	55-70-75	11-17-26	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	13-27	5-10-20	45-61-65	23-29-35	1.40-1.50-1.70	0.60-1.30-2.00	0.14-0.19-0.21	3.00-4.50-5.90	0.5-0.8-1.0
	27-50	25-40-50	25-32-45	25-28-32	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.16-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	50-59	30-45-50	25-35-45	12-20-30	1.75-1.80-2.00	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	59-80	35-45-60	20-40-50	12-15-26	1.75-1.80-2.00	0.01-0.03-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
Xenia-----------	0-8	10-10-25	55-74-75	11-16-20	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-1.5-3.0
	8-30	5-06-20	45-63-65	27-31-35	1.40-1.50-1.70	0.60-1.30-2.00	0.17-0.19-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	30-50	20-36-40	25-36-50	24-28-35	1.50-1.60-1.70	0.60-0.80-1.00	0.14-0.16-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	50-58	25-37-50	25-43-50	20-20-30	1.50-1.60-1.70	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	58-80	35-46-60	20-39-50	12-15-18	1.75-1.90-2.00	0.01-0.03-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
FexA:									
Fox----------	0-8	20-40-50	30-43-55	12-17-22	1.30-1.45-1.60	0.60-1.30-2.00	0.10-0.16-0.21	0.00-1.50-2.90	1.0-2.0-3.0
	8-22	20-45-50	20-28-40	22-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.23-0.30	3.00-4.50-5.90	0.5-0.8-1.0
	22-33	40-45-70	10-28-35	14-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.10-0.14-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	33-60	85-89-95	5-08-15	0-03-04	1.70-1.75-1.80	20.00-40.00-60.00	0.02-0.04-0.05	0.00-1.50-2.90	0.0-0.2-0.5
FexAQ:									
Fox----------	0-8	20-40-50	30-43-55	12-17-22	1.30-1.45-1.60	0.60-1.30-2.00	0.10-0.16-0.21	0.00-1.50-2.90	1.0-2.0-3.0
	8-22	20-45-50	20-28-40	22-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.23-0.30	3.00-4.50-5.90	0.5-0.8-1.0
	22-33	40-45-70	10-28-35	14-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.10-0.14-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	33-60	85-89-95	5-08-15	0-03-04	1.70-1.75-1.80	20.00-40.00-60.00	0.02-0.04-0.05	0.00-1.50-2.90	0.0-0.2-0.5
FexB2:									
Fox----------	0-7	20-40-50	30-43-55	12-17-22	1.30-1.45-1.60	0.60-1.30-2.00	0.10-0.16-0.21	0.00-1.50-2.90	1.0-1.8-3.0
	7-22	20-45-50	20-28-40	22-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.23-0.30	3.00-4.50-5.90	0.5-0.8-1.0
	22-33	40-45-70	10-28-35	14-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.10-0.14-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	33-60	85-89-95	5-08-15	0-03-04	1.70-1.75-1.80	20.00-40.00-60.00	0.02-0.04-0.05	0.00-1.50-2.90	0.0-0.2-0.5
FgqC3:									
Fox----------	0-6	60-63-75	17-21-26	8-16-19	1.40-1.45-1.50	0.60-1.30-2.00	0.10-0.15-0.19	0.00-1.50-2.90	0.5-0.8-1.0
	6-22	20-45-50	20-28-40	22-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.23-0.30	3.00-4.50-5.90	0.5-0.8-1.0
	22-33	40-45-70	10-28-35	14-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.10-0.14-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	33-60	85-89-95	5-08-15	0-03-04	1.70-1.75-1.80	20.00-40.00-60.00	0.02-0.04-0.05	0.00-1.50-2.90	0.0-0.2-0.5
Casco-----------	0-4	60-63-75	17-21-26	8-16-19	1.40-1.45-1.50	0.60-1.30-2.00	0.10-0.15-0.19	0.00-1.50-2.90	0.5-0.8-1.0
	4-12	20-46-50	20-27-40	24-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.23-0.30	3.00-4.50-5.90	0.5-0.8-1.0
	12-16	40-46-70	10-27-35	24-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.10-0.14-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	16-60	85-89-95	5-08-15	0-03-04	1.70-1.75-1.80	20.00-40.00-60.00	0.02-0.04-0.05	0.00-1.50-2.90	0.0-0.2-0.5
GccAH:									
Genesee---------	0-10	15-35-45	28-43-67	18-22-26	1.35-1.40-1.45	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-32	25-40-48	28-38-62	18-22-26	1.40-1.50-1.55	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	0.5-1.2-2.0
	32-56	30-53-70	15-29-49	8-18-26	1.35-1.48-1.60	0.60-3.30-6.00	0.05-0.12-0.18	0.00-1.50-2.90	1.0-1.5-2.0
	56-60	30-55-90	10-35-60	8-10-26	1.35-1.48-1.60	0.60-3.30-6.00	0.05-0.12-0.18	0.00-1.50-2.90	1.0-1.5-2.0

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
GccAW:									
Genesee---------	0-10	15-35-45	28-43-67	18-22-26	1.35-1.40-1.45	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-32	25-40-48	28-38-62	18-22-26	1.40-1.50-1.55	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	0.5-1.2-2.0
	32-56	30-53-70	15-29-49	8-18-26	1.35-1.48-1.60	0.60-3.30-6.00	0.05-0.12-0.18	0.00-1.50-2.90	1.0-1.5-2.0
	56-60	30-55-90	10-35-60	8-10-26	1.35-1.48-1.60	0.60-3.30-6.00	0.05-0.12-0.18	0.00-1.50-2.90	1.0-1.5-2.0
GcpAW:									
Genesee---------	0-10	15-35-45	28-43-67	18-22-26	1.35-1.40-1.45	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-32	25-40-48	28-38-62	18-22-26	1.40-1.50-1.55	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	0.5-1.2-2.0
	32-56	30-53-70	15-29-49	8-18-26	1.35-1.48-1.60	0.60-3.30-6.00	0.05-0.12-0.18	0.00-1.50-2.90	1.0-1.5-2.0
	56-60	30-55-90	10-35-60	8-10-26	1.35-1.48-1.60	0.60-3.30-6.00	0.05-0.12-0.18	0.00-1.50-2.90	1.0-1.5-2.0
GgbG:									
Gilwood---------	0-6	6-08-15	65-77-84	10-15-20	1.30-1.35-1.40	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	6-11	6-08-15	63-73-80	14-19-22	1.30-1.35-1.40	0.60-1.30-2.00	0.15-0.19-0.23	0.00-1.50-2.90	0.5-0.8-1.0
	11-22	6-11-15	59-66-76	18-23-26	1.30-1.40-1.50	0.60-1.30-2.00	0.12-0.16-0.20	0.00-1.50-2.90	0.0-0.2-0.5
	22-32	6-17-20	56-65-82	12-18-24	1.30-1.40-1.50	0.60-1.30-2.00	0.06-0.11-0.16	0.00-1.50-2.90	0.0-0.2-0.5
	32-60	---	---	---	---	0.00-0.18-0.60	---	---	---
Brownstown------	0-6	5-07-30	55-81-89	6-12-18	1.30-1.35-1.40	0.06-1.03-2.00	0.15-0.20-0.24	0.00-1.50-2.90	1.0-2.5-4.0
	6-18	10-23-30	55-64-82	8-13-18	1.30-1.40-1.50	2.00-4.00-6.00	0.05-0.12-0.19	0.00-1.50-2.90	0.5-0.8-1.0
	18-36	10-22-30	55-65-82	8-13-18	1.30-1.40-1.50	2.00-4.00-6.00	0.03-0.07-0.10	0.00-1.50-2.90	0.0-0.2-0.5
	36-60	---	---	---	---	0.00-0.18-0.60	---	---	---
GgfD2:									
Gilwood---------	0-5	6-10-20	60-79-85	10-11-20	1.30-1.35-1.40	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	5-11	6-08-15	60-73-80	14-19-22	1.30-1.35-1.40	0.60-1.30-2.00	0.15-0.19-0.23	0.00-1.50-2.90	0.5-0.8-1.0
	11-22	6-11-15	50-66-75	18-23-26	1.30-1.40-1.50	0.60-1.30-2.00	0.12-0.16-0.20	0.00-1.50-2.90	0.0-0.2-0.5
	22-32	6-17-20	50-65-75	12-18-24	1.30-1.40-1.50	0.60-1.30-2.00	0.06-0.11-0.16	0.00-1.50-2.90	0.0-0.2-0.5
	32-60	---	---	---	---	0.00-0.18-0.60	---	---	---
Wrays----------	0-6	2-03-12	60-79-85	14-18-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	6-25	2-03-12	55-67-75	22-30-34	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.19-0.24	3.00-4.50-5.90	0.5-0.8-1.0
	25-34	6-12-15	50-57-70	24-31-34	1.40-1.50-1.60	0.60-1.30-2.00	0.13-0.17-0.20	3.00-4.50-5.90	0.0-0.5-1.0
	34-44	8-12-20	60-71-80	12-17-30	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	44-60	---	---	---	---	0.00-0.18-0.60	---	---	---
HcgAW:									
Haymond---------	0-9	1-10-20	60-75-85	10-15-20	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-44	1-19-32	50-67-75	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	44-60	1-28-65	20-57-75	5-15-26	1.30-1.40-1.50	0.60-1.30-2.00	0.14-0.18-0.22	0.00-1.50-2.90	0.0-0.5-1.0
HctAW:									
Haymond---------	0-9	1-10-20	60-75-85	10-15-20	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-44	1-19-32	50-67-75	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	44-60	5-28-65	20-57-75	5-15-26	1.30-1.40-1.50	0.60-1.30-2.00	0.14-0.18-0.22	0.00-1.50-2.90	0.0-0.5-1.0
Wirt----------	0-8	5-10-35	50-75-80	10-15-20	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-38	20-41-75	15-43-65	7-16-18	1.40-1.48-1.55	0.60-1.30-2.00	0.11-0.16-0.20	0.00-1.50-2.90	0.0-0.5-1.0
	38-60	32-55-80	10-35-50	4-10-18	1.45-1.53-1.60	0.60-3.30-6.00	0.07-0.13-0.19	0.00-1.50-2.90	0.0-0.2-0.5
HeoF:									
Hickory---------	0-7	15-25-40	45-58-60	9-17-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	7-38	20-30-40	35-39-50	24-31-35	1.45-1.55-1.65	0.60-1.30-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.0-0.2-0.5
	38-44	25-40-50	35-36-50	15-24-32	1.50-1.60-1.70	0.60-1.30-2.00	0.11-0.15-0.19	0.00-1.50-2.90	0.0-0.2-0.5
	44-60	30-40-49	25-40-50	15-20-30	1.50-1.63-1.75	0.60-1.30-2.00	0.10-0.13-0.15	0.00-1.50-2.90	0.0-0.2-0.5
HleAW:									
Holton----------	0-14	20-30-45	45-57-65	6-13-18	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-1.5-2.0
	14-41	25-55-70	25-32-55	6-13-18	1.35-1.45-1.55	0.60-1.30-2.00	0.14-0.18-0.22	0.00-1.50-2.90	0.0-0.5-1.0
	41-60	25-55-75	20-30-50	6-15-27	1.40-1.50-1.60	0.60-2.83-6.00	0.12-0.16-0.19	0.00-1.50-2.90	0.0-0.2-0.5

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
KugG:									
Kurtz----------	0-6	2-04-08	70-78-86	12-18-22	1.35-1.43-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	6-36	2-03-08	57-67-73	25-30-35	1.35-1.45-1.55	0.60-1.30-2.00	0.10-0.16-0.22	3.00-4.50-5.90	0.0-0.5-1.0
	36-47	2-03-08	60-69-73	25-28-32	1.50-1.58-1.65	0.60-1.30-2.00	0.05-0.10-0.14	3.00-4.50-5.90	0.0-0.2-0.5
	47-60	---	---	---	---	0.00-0.01-0.06	---	---	---
Gnawbone--------	0-7	5-10-15	60-75-85	10-15-20	1.30-1.35-1.40	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	7-27	5-08-15	50-63-75	24-29-34	1.40-1.50-1.60	0.60-1.30-2.00	0.11-0.16-0.20	0.00-1.50-2.90	0.0-0.5-1.0
	27-39	5-07-15	50-70-75	15-23-32	1.40-1.50-1.60	0.60-1.30-2.00	0.07-0.12-0.16	0.00-1.50-2.90	0.0-0.2-0.5
	39-60	---	---	---	---	0.00-0.01-0.20	---	---	---
LeaA:									
Lauer----------	0-8	5-12-15	65-74-85	12-14-20	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.8-3.0
	8-45	5-08-10	50-63-70	24-29-34	1.40-1.55-1.70	0.20-1.10-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	45-71	5-05-10	45-52-65	35-43-50	1.45-1.58-1.70	0.06-0.13-0.20	0.12-0.16-0.19	6.00-7.50-8.90	0.0-0.2-0.5
	71-80	5-06-15	45-59-70	24-35-45	1.45-1.55-1.65	0.06-0.13-0.20	0.10-0.15-0.19	3.00-4.50-5.90	0.0-0.2-0.5
MecAQ:									
Martinsville----	0-14	35-43-50	30-43-45	12-14-20	1.40-1.55-1.70	0.60-1.30-2.00	0.17-0.18-0.19	0.00-1.50-2.90	1.0-2.0-3.0
	14-30	45-52-65	20-22-60	22-26-31	1.50-1.60-1.70	0.60-1.30-2.00	0.15-0.18-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	30-66	20-23-60	25-51-65	15-26-28	1.50-1.60-1.70	0.60-1.30-2.00	0.10-0.14-0.18	0.00-1.50-2.90	0.5-0.8-1.0
	66-80	30-48-65	20-42-60	10-10-30	1.50-1.60-1.70	0.60-1.30-2.00	0.08-0.11-0.13	0.00-1.50-2.90	0.0-0.2-0.5
MecB:									
Martinsville----	0-8	35-43-50	30-43-45	12-14-20	1.40-1.55-1.70	0.60-1.30-2.00	0.17-0.18-0.19	0.00-1.50-2.90	1.0-2.0-3.0
	8-17	45-52-65	20-22-60	22-26-31	1.50-1.60-1.70	0.60-1.30-2.00	0.15-0.18-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	17-48	20-23-60	25-51-65	15-26-28	1.50-1.60-1.70	0.60-1.30-2.00	0.10-0.16-0.18	0.00-1.50-2.90	0.5-0.8-1.0
	48-80	30-48-65	20-42-60	10-10-30	1.50-1.60-1.70	0.60-1.30-2.00	0.08-0.11-0.13	0.00-1.50-2.90	0.0-0.2-0.5
MfwA:									
Martinsville, sandy substratum-----	0-11	35-43-50	30-43-45	8-14-20	1.30-1.45-1.60	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	11-14	35-43-50	30-43-45	8-14-20	1.30-1.45-1.60	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	14-39	35-43-50	15-29-40	20-28-30	1.50-1.60-1.70	0.60-1.30-2.00	0.18-0.19-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	39-55	35-45-60	15-28-35	15-27-28	1.50-1.60-1.70	0.60-1.30-2.00	0.15-0.18-0.20	0.00-1.50-2.90	0.5-0.8-1.0
	55-72	40-54-90	5-36-55	8-10-12	1.70-1.75-1.80	2.00-4.00-6.00	0.05-0.08-0.10	0.00-1.50-2.90	0.0-0.2-0.5
	72-80	75-89-95	2-08-10	0-03-04	1.70-1.75-1.80	20.00-30.00-40.00	0.02-0.04-0.05	0.00-1.50-2.90	0.0-0.2-0.5
MfwAQ:									
Martinsville, sandy substratum-----	0-11	35-43-50	30-43-45	8-14-20	1.30-1.45-1.60	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	11-14	35-43-50	30-43-45	8-14-20	1.30-1.45-1.60	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	14-39	35-43-50	15-29-40	20-28-30	1.50-1.60-1.70	0.60-1.30-2.00	0.18-0.19-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	39-55	35-46-60	15-27-35	15-27-28	1.50-1.60-1.70	0.60-1.30-2.00	0.15-0.18-0.20	0.00-1.50-2.90	0.5-0.8-1.0
	55-72	40-54-90	5-36-55	8-10-12	1.70-1.75-1.80	2.00-4.00-6.00	0.05-0.08-0.10	0.00-1.50-2.90	0.0-0.2-0.5
	72-80	75-89-95	2-08-10	0-03-04	1.70-1.75-1.80	20.00-30.00-40.00	0.02-0.04-0.05	0.00-1.50-2.90	0.0-0.2-0.5
MfwB2:									
Martinsville, sandy substratum-----	0-8	35-43-50	30-43-45	8-14-20	1.30-1.45-1.60	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-1.8-3.0
	8-14	35-43-50	30-43-45	8-14-20	1.30-1.45-1.60	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	14-39	35-43-50	15-29-40	20-28-30	1.50-1.60-1.70	0.60-1.30-2.00	0.18-0.19-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	39-55	35-46-60	15-27-35	15-27-28	1.50-1.60-1.70	0.60-1.30-2.00	0.15-0.18-0.20	0.00-1.50-2.90	0.5-0.8-1.0
	55-72	40-54-90	5-36-55	8-10-12	1.70-1.75-1.80	2.00-4.00-6.00	0.05-0.08-0.10	0.00-1.50-2.90	0.0-0.2-0.5
	72-80	75-89-95	2-08-10	0-03-04	1.70-1.75-1.80	20.00-30.00-40.00	0.02-0.04-0.05	0.00-1.50-2.90	0.0-0.2-0.5

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
MfxA:									
Martinsville, sandy substratum-----	0-10	52-64-76	10-27-38	7-09-15	1.40-1.55-1.70	2.00-4.00-6.00	0.10-0.16-0.21	0.00-1.50-2.90	1.0-2.0-3.0
	10-15	52-62-76	10-27-38	8-11-15	1.40-1.55-1.70	2.00-4.00-6.00	0.09-0.13-0.18	0.00-1.50-2.90	0.5-0.8-1.0
	15-41	52-65-74	5-15-28	18-20-24	1.60-1.70-1.80	0.60-1.30-2.00	0.09-0.15-0.20	0.00-1.50-2.90	0.0-0.2-0.5
	41-60	65-80-86	4-08-15	8-12-15	1.60-1.70-1.80	0.60-1.30-2.00	0.09-0.11-0.14	0.00-1.50-2.90	0.0-0.2-0.5
	60-80	87-92-96	1-06-10	0-02-05	1.60-1.70-1.80	6.00-13.00-20.00	0.02-0.05-0.07	0.00-1.50-2.90	0.0-0.2-0.5
MhuA:									
McGary----------	0-11	2-07-10	64-69-78	20-24-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.8-3.0
	11-42	2-04-06	40-51-63	35-45-55	1.45-1.53-1.60	0.06-0.33-0.60	0.11-0.15-0.18	6.00-7.50-8.90	0.0-0.5-1.0
	42-50	1-05-05	40-50-64	35-45-55	1.45-1.53-1.60	0.01-0.10-0.20	0.11-0.15-0.18	6.00-7.50-8.90	0.0-0.2-0.5
	50-60	1-05-20	40-56-64	35-39-50	1.50-1.58-1.65	0.01-0.04-0.06	0.11-0.15-0.18	3.00-4.50-5.90	0.0-0.2-0.5
MhyB:									
Medora----------	0-9	5-08-15	60-74-83	12-18-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-32	5-06-15	55-66-71	24-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	32-60	25-31-55	30-48-55	12-21-30	1.70-1.75-1.80	0.01-0.18-0.20	0.08-0.09-0.10	0.00-1.50-2.90	0.0-0.2-0.5
	60-80	30-46-60	12-21-40	27-33-44	1.40-1.50-1.60	0.20-1.10-2.00	0.08-0.09-0.10	3.00-4.50-5.90	0.0-0.2-0.5
MhyC2:									
Medora----------	0-6	5-08-15	60-74-83	12-18-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	6-26	5-06-15	55-66-71	24-28-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	26-40	25-31-55	30-48-55	12-21-30	1.70-1.75-1.80	0.01-0.18-0.20	0.08-0.09-0.10	0.00-1.50-2.90	0.0-0.2-0.5
	40-80	30-46-60	12-21-40	27-33-44	1.40-1.50-1.60	0.20-1.10-2.00	0.08-0.09-0.10	3.00-4.50-5.90	0.0-0.2-0.5
MjjAH:									
Medway----------	0-18	5-18-25	40-53-60	27-29-32	1.30-1.40-1.50	0.60-1.30-2.00	0.23-0.24-0.25	3.00-4.50-5.90	2.0-3.0-4.0
	18-48	20-40-55	25-32-55	24-28-32	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.19-0.20	3.00-4.50-5.90	0.5-1.2-2.0
	48-60	30-45-65	20-37-45	12-18-30	1.50-1.60-1.70	2.00-4.00-6.00	0.15-0.17-0.20	0.00-1.50-2.90	0.5-0.8-1.0
MmoC3:									
Miami----------	0-6	30-32-50	30-40-55	27-28-35	1.30-1.45-1.60	0.60-1.30-2.00	0.07-0.16-0.21	0.00-1.50-2.90	0.0-0.5-1.0
	6-29	15-31-40	30-38-50	27-31-35	1.40-1.55-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	29-34	35-38-55	30-40-45	15-22-25	1.60-1.70-1.80	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	34-80	35-45-60	30-40-50	10-15-20	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0.00-1.50-2.90	0.0-0.2-0.5
MmoD3:									
Miami----------	0-6	30-32-50	30-40-55	27-28-35	1.30-1.45-1.60	0.60-1.30-2.00	0.07-0.16-0.21	0.00-1.50-2.90	0.0-0.5-1.0
	6-29	15-31-40	30-38-50	27-31-35	1.40-1.55-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	29-34	35-38-55	30-40-45	15-22-25	1.60-1.70-1.80	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	34-80	35-45-60	30-40-50	10-15-20	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0.00-1.50-2.90	0.0-0.2-0.5
MnpB2:									
Miami----------	0-8	9-22-37	51-63-78	7-15-26	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-1.5-3.0
	8-13	5-20-20	35-53-60	24-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.16-0.18-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	13-31	15-31-40	30-38-50	27-31-35	1.40-1.55-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	31-36	35-38-55	30-40-45	15-22-25	1.60-1.70-1.80	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	36-80	35-45-60	30-40-50	10-15-20	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0.00-1.50-2.90	0.0-0.2-0.5
MnpC2:									
Miami----------	0-7	9-22-37	51-63-78	7-15-26	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-1.4-3.0
	7-13	5-20-20	35-53-60	24-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.16-0.18-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	13-31	15-31-40	30-38-50	27-31-35	1.40-1.55-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	31-36	35-38-55	30-40-45	15-22-25	1.60-1.70-1.80	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	36-80	35-45-60	30-40-50	10-15-20	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0.00-1.50-2.90	0.0-0.2-0.5

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
MnpD2:									
Miami----------	0-7	9-22-37	51-63-78	7-15-26	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-1.2-3.0
	7-13	5-20-20	35-53-60	24-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.16-0.18-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	13-31	15-31-40	30-38-50	27-31-35	1.40-1.55-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	31-36	35-38-55	30-40-45	15-22-25	1.60-1.70-1.80	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	36-80	35-45-60	30-40-50	10-15-20	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0.00-1.50-2.90	0.0-0.2-0.5
MqbA:									
Milton----------	0-9	10-20-25	50-65-70	12-15-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-13	15-20-30	50-62-70	14-18-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	0.5-0.8-1.0
	13-29	5-22-40	20-40-65	35-38-45	1.60-1.70-1.80	0.20-1.10-2.00	0.15-0.18-0.19	3.00-4.50-5.90	0.5-0.8-1.0
	29-31	5-15-50	15-40-55	38-45-60	1.50-1.60-1.70	0.20-0.40-1.70	0.07-0.13-0.16	3.00-4.50-5.90	0.5-0.8-1.0
	31-80	---	---	---	---	0.00-0.10-0.20	---	---	---
MqbB2:									
Milton----------	0-8	10-20-25	50-65-70	12-15-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.8-3.0
	8-13	15-20-30	50-62-70	14-18-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	0.5-0.8-1.0
	13-29	5-22-40	20-40-65	35-38-45	1.60-1.70-1.80	0.20-1.10-2.00	0.15-0.18-0.19	3.00-4.50-5.90	0.5-0.8-1.0
	29-31	5-15-50	15-40-55	38-45-60	1.50-1.60-1.70	0.20-0.40-1.70	0.07-0.13-0.16	3.00-4.50-5.90	0.5-0.8-1.0
	31-80	---	---	---	---	0.00-0.10-0.20	---	---	---
MqbC2:									
Milton----------	0-7	10-20-25	50-65-70	12-15-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.7-3.0
	7-13	15-20-30	50-62-70	14-18-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	0.5-0.8-1.0
	13-29	5-22-40	20-40-65	35-38-45	1.60-1.70-1.80	0.20-1.10-2.00	0.15-0.18-0.19	3.00-4.50-5.90	0.5-0.8-1.0
	29-31	5-15-50	15-40-55	38-45-60	1.50-1.60-1.70	0.20-0.40-1.70	0.07-0.13-0.16	3.00-4.50-5.90	0.5-0.8-1.0
	31-80	---	---	---	---	0.00-0.10-0.20	---	---	---
MrbF:									
Milton----------	0-6	10-25-30	50-60-70	12-15-22	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.23-0.26	0.00-1.50-2.90	1.0-2.0-3.0
	6-10	10-25-30	50-54-70	15-21-25	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.23-0.26	0.00-1.50-2.90	1.0-2.0-3.0
	10-23	20-25-40	30-43-50	30-32-40	1.60-1.70-1.80	0.20-0.40-0.60	0.15-0.17-0.19	3.00-4.50-5.90	0.5-0.8-1.0
	23-25	10-25-30	25-33-50	40-42-60	1.30-1.40-1.50	0.60-1.30-2.00	0.07-0.13-0.19	3.00-4.50-5.90	1.0-1.5-2.0
	25-80	---	---	---	---	0.00-0.10-0.20	---	---	---
Rock outcrop----	---	---	---	---	---	0.00-0.10-0.20	---	---	---
NaaB2:									
Nabb----------	0-7	10-17-28	50-70-75	10-13-22	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	7-13	10-16-22	58-69-77	13-15-20	1.40-1.50-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	13-33	10-13-18	52-60-73	20-27-30	1.50-1.58-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	33-71	16-22-30	50-56-66	18-22-28	1.65-1.73-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	71-80	26-28-40	22-41-48	24-31-38	1.60-1.65-1.70	0.01-0.03-0.06	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
NpcA:									
Nineveh---------	0-10	50-70-75	15-20-30	5-10-20	1.40-1.55-1.70	0.60-1.42-2.13	0.10-0.15-0.21	0.00-1.50-2.90	2.0-3.0-4.0
	10-22	50-70-75	10-12-20	15-18-25	1.50-1.60-1.70	0.60-1.42-2.13	0.09-0.13-0.18	3.00-4.50-5.90	0.5-1.2-2.0
	22-24	50-70-75	10-13-20	15-17-25	1.50-1.50-1.70	0.60-1.42-2.13	0.09-0.14-0.18	3.00-4.50-5.90	0.5-1.2-2.0
	24-60	85-89-95	5-08-15	0-03-04	1.70-1.75-1.80	20.00-40.00-60.00	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
NpcAQ:									
Nineveh---------	0-10	50-70-75	15-20-30	5-10-20	1.40-1.55-1.70	0.60-1.42-2.13	0.10-0.15-0.21	0.00-1.50-2.90	2.0-3.0-4.0
	10-22	50-70-75	10-12-20	15-18-25	1.50-1.60-1.70	0.60-1.42-2.13	0.09-0.13-0.18	3.00-4.50-5.90	0.5-1.2-2.0
	22-24	50-70-75	10-13-20	15-17-25	1.50-1.50-1.70	0.60-1.42-2.13	0.09-0.14-0.18	3.00-4.50-5.90	0.5-1.2-2.0
	24-60	85-89-95	5-08-15	0-03-04	1.70-1.75-1.80	20.00-40.00-60.00	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
NpeA:									
Nineveh---------	0-8	35-63-75	20-27-40	8-10-25	1.30-1.45-1.60	0.60-1.30-2.00	0.13-0.15-0.22	0.00-1.50-2.90	2.0-3.0-4.0
	8-13	40-50-70	20-32-35	15-18-25	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	2.0-3.0-4.0
	13-24	18-45-55	20-25-50	20-30-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	24-33	40-45-70	10-25-35	20-30-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	33-36	40-45-70	10-23-35	20-32-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	36-60	85-89-95	5-08-15	2-03-05	1.60-1.70-1.80	20.00-40.00-60.00	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
NpeAQ:									
Nineveh---------	0-8	35-63-75	20-27-40	8-10-25	1.30-1.45-1.60	0.60-1.30-2.00	0.13-0.15-0.22	0.00-1.50-2.90	2.0-3.0-4.0
	8-13	40-50-70	20-32-35	15-18-25	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	2.0-3.0-4.0
	13-24	18-45-55	20-25-50	20-30-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	24-33	40-45-70	10-25-35	20-30-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	33-36	40-45-70	10-23-35	20-32-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	36-60	85-89-95	5-08-15	2-03-05	1.60-1.70-1.80	20.00-40.00-60.00	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
NpeB2:									
Nineveh---------	0-8	35-63-75	20-27-40	8-10-25	1.30-1.45-1.60	0.60-1.30-2.00	0.13-0.15-0.22	0.00-1.50-2.90	2.0-3.0-4.0
	8-13	40-50-70	20-32-35	15-18-25	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	2.0-3.0-4.0
	13-24	18-45-55	20-25-50	20-30-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	24-33	40-45-70	10-25-35	20-30-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	33-36	40-45-70	10-23-35	20-32-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	36-60	85-89-95	5-08-15	2-03-05	1.60-1.70-1.80	20.00-40.00-60.00	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
ObaA:									
Ockley----------	0-10	30-41-45	30-43-45	11-16-20	1.20-1.35-1.65	0.60-1.30-2.00	0.20-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-24	40-44-60	20-27-40	20-29-35	1.60-1.65-1.70	0.60-1.30-2.00	0.12-0.20-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	24-38	40-62-70	5-11-35	20-27-35	1.60-1.65-1.70	0.60-1.30-2.00	0.12-0.19-0.19	3.00-4.50-5.90	0.5-0.8-1.0
	38-44	45-66-75	5-09-25	18-25-35	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.17-0.17	3.00-4.50-5.90	0.0-0.2-0.5
	44-80	85-93-98	1-05-10	2-02-05	1.60-1.70-2.10	20.00-40.00-60.00	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
OfaAW:									
Oldenburg-------	0-9	15-25-45	38-60-75	8-15-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-1.5-2.0
	9-39	32-48-67	25-39-60	8-13-18	1.35-1.45-1.55	0.60-1.30-2.00	0.13-0.18-0.22	0.00-1.50-2.90	0.5-0.8-1.0
	39-60	40-70-80	15-24-42	5-06-18	1.35-1.45-1.55	0.60-3.26-6.00	0.09-0.14-0.19	0.00-1.50-2.90	0.0-0.2-0.5
Omz:									
Orthents, earthen dam.									
PcrB2:									
Pekin----------	0-10	3-12-20	60-73-87	10-15-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	10-24	3-07-18	52-71-79	18-22-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.19-0.21	0.00-1.50-2.90	0.5-0.8-1.0
	24-45	3-09-18	50-65-77	20-26-32	1.70-1.75-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	45-80	2-20-70	30-58-60	10-22-30	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
PcrC2:									
Pekin----------	0-8	3-12-20	60-73-87	10-15-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	8-28	3-07-18	52-71-79	18-22-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.19-0.21	0.00-1.50-2.90	0.5-0.8-1.0
	28-57	3-09-18	50-65-77	20-26-32	1.70-1.75-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	57-80	2-20-70	30-58-60	10-22-30	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
PcrC3:									
Pekin----------	0-6	3-12-20	60-73-87	10-15-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	6-18	3-07-18	52-71-79	18-22-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.19-0.21	0.00-1.50-2.90	0.5-0.8-1.0
	18-42	3-09-18	50-65-77	20-26-32	1.70-1.75-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	42-80	2-20-70	30-58-60	10-22-30	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
PhaA:									
Peoga----------	0-8	2-10-20	60-73-85	12-17-22	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-19	2-10-20	60-72-83	14-18-22	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.24-0.27	0.00-1.50-2.90	0.0-0.5-1.0
	19-36	5-11-25	50-63-75	18-26-34	1.40-1.48-1.55	0.20-0.40-0.60	0.14-0.19-0.24	0.00-1.50-2.90	0.0-0.2-0.5
	36-76	5-13-35	40-61-70	18-26-34	1.40-1.58-1.75	0.01-0.18-0.20	0.06-0.11-0.15	0.00-1.50-2.90	0.0-0.2-0.5
	76-80	5-13-35	40-59-70	22-28-34	1.35-1.45-1.55	0.01-0.13-0.20	0.06-0.08-0.10	0.00-1.50-2.90	0.0-0.2-0.5
PlpAV:									
Piopolis--------	0-10	1-02-15	60-67-72	27-31-35	1.20-1.30-1.40	0.20-0.40-0.60	0.21-0.22-0.23	3.00-4.50-5.90	1.0-2.0-3.0
	10-31	1-05-15	50-64-72	27-31-35	1.40-1.50-1.60	0.20-0.40-0.60	0.18-0.19-0.20	3.00-4.50-5.90	0.0-0.5-1.0
	31-60	1-05-19	50-64-74	25-31-38	1.50-1.60-1.70	0.06-0.13-0.20	0.18-0.19-0.20	3.00-4.50-5.90	0.0-0.5-1.0

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
Pml:									
Pits, quarry.									
PnnD:									
Pike----------	0-7	3-05-10	65-80-85	12-15-26	1.30-1.48-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	7-39	3-04-15	65-71-85	18-25-30	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.19-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	39-53	15-25-35	50-55-70	18-20-26	1.40-1.55-1.70	0.60-1.30-2.00	0.16-0.18-0.20	0.00-1.50-2.90	0.0-0.2-0.5
	53-80	35-50-52	20-35-45	10-15-30	1.40-1.55-1.70	0.60-1.30-2.00	0.11-0.15-0.19	0.00-1.50-2.90	0.0-0.2-0.5
Chetwynd--------	0-8	3-05-25	65-77-85	12-18-24	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	8-15	5-15-20	50-58-65	18-27-30	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.19-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	15-39	40-50-55	10-25-40	20-25-30	1.25-1.48-1.70	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	39-56	40-58-75	10-24-35	15-18-25	1.25-1.48-1.70	0.60-1.30-2.00	0.11-0.15-0.20	0.00-1.50-2.90	0.0-0.2-0.5
	56-80	65-85-95	1-05-20	5-10-15	1.45-1.58-1.70	2.00-4.00-6.00	0.06-0.10-0.13	0.00-1.50-2.90	0.0-0.2-0.5
PnnF:									
Pike----------	0-7	3-05-10	65-80-85	12-15-26	1.30-1.48-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	7-39	3-04-15	65-71-85	18-25-30	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.19-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	39-53	15-25-35	50-55-70	18-20-26	1.40-1.55-1.70	0.60-1.30-2.00	0.16-0.18-0.20	0.00-1.50-2.90	0.0-0.2-0.5
	53-80	35-50-52	20-35-45	10-15-30	1.40-1.55-1.70	0.60-1.30-2.00	0.11-0.15-0.19	0.00-1.50-2.90	0.0-0.2-0.5
Chetwynd--------	0-8	3-05-25	65-77-85	12-18-24	1.20-1.43-1.65	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	8-15	5-15-20	50-58-65	18-27-30	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.19-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	15-39	40-50-55	10-25-40	20-25-30	1.25-1.48-1.70	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	39-56	40-58-75	10-24-35	15-18-25	1.25-1.48-1.70	0.60-1.30-2.00	0.11-0.15-0.20	0.00-1.50-2.90	0.0-0.2-0.5
	56-80	65-85-95	1-05-20	5-10-15	1.45-1.58-1.70	2.00-4.00-6.00	0.06-0.10-0.13	0.00-1.50-2.90	0.0-0.2-0.5
Ppu:									
Pits, sand and gravel.									
RctD3:									
Rarden----------	0-4	1-05-10	52-63-72	27-32-38	1.35-1.45-1.55	0.20-0.40-0.60	0.20-0.22-0.23	3.00-4.50-5.90	0.5-1.2-2.0
	4-24	1-04-10	30-50-62	35-46-60	1.40-1.50-1.60	0.06-0.13-0.20	0.10-0.12-0.14	3.00-4.50-5.90	0.0-0.5-1.0
	24-32	1-04-10	40-54-65	30-42-58	1.40-1.53-1.65	0.01-0.10-0.20	0.06-0.09-0.12	3.00-4.50-5.90	0.0-0.2-0.5
	32-60	---	---	---	---	0.00-0.01-0.06	---	---	---
Coolville-------	0-4	1-03-10	64-74-82	17-23-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.20-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	4-17	1-03-05	56-66-72	27-31-39	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	17-38	1-04-12	40-54-64	35-42-58	1.40-1.53-1.65	0.06-0.13-0.20	0.10-0.13-0.15	3.00-4.50-5.90	0.0-0.2-0.5
	38-43	1-05-10	40-62-69	30-33-58	1.40-1.53-1.65	0.01-0.10-0.20	0.08-0.10-0.12	3.00-4.50-5.90	0.0-0.2-0.5
	43-60	---	---	---	---	0.00-0.01-0.06	---	---	---
RehA:									
Rensselaer------	0-8	15-19-40	30-61-75	15-20-26	1.30-1.43-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	3.0-4.5-6.0
	8-14	15-19-40	30-51-70	27-30-35	1.30-1.40-1.50	0.60-1.30-2.00	0.17-0.20-0.23	0.00-1.50-2.90	2.0-3.5-5.0
	14-38	15-37-55	25-35-50	20-28-35	1.40-1.55-1.70	0.60-1.30-2.00	0.15-0.18-0.20	0.00-3.50-5.90	0.5-1.2-2.0
	38-47	30-44-60	20-29-40	18-27-30	1.40-1.55-1.70	0.60-1.30-2.00	0.09-0.15-0.20	0.00-1.50-2.90	0.5-0.8-1.0
	47-80	25-54-88	10-32-55	2-14-20	1.50-1.60-1.70	0.60-1.30-2.00	0.10-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5
Treaty----------	0-14	10-17-20	50-58-70	20-25-26	1.30-1.43-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	3.0-4.5-6.0
	14-36	8-12-18	50-55-70	27-33-35	1.40-1.55-1.70	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	1.0-1.5-2.0
	36-59	20-34-44	30-41-52	20-25-35	1.50-1.60-1.70	0.60-0.80-1.00	0.12-0.14-0.16	3.00-4.50-5.90	0.5-0.8-1.0
	59-70	25-40-60	30-43-49	12-17-18	1.50-1.65-1.75	0.20-0.40-0.60	0.02-0.03-0.04	0.00-1.50-2.90	0.1-0.3-0.5
ReyA:									
Rensselaer------	0-7	25-40-55	30-40-50	11-20-27	1.30-1.43-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	3.0-4.5-6.0
	7-15	25-42-55	30-35-50	11-23-27	1.30-1.43-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	2.0-4.0-6.0
	15-38	15-37-55	25-35-50	20-28-35	1.40-1.55-1.70	0.60-1.30-2.00	0.15-0.18-0.20	0.00-3.50-5.90	0.5-1.2-2.0
	38-47	30-44-60	20-29-40	18-27-30	1.40-1.55-1.70	0.60-1.30-2.00	0.09-0.15-0.20	0.00-1.50-2.90	0.5-0.8-1.0
	47-80	25-54-88	10-32-55	2-14-20	1.50-1.60-1.70	0.60-1.30-2.00	0.10-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
ReyAQ:									
Rensselaer------	0-7	25-40-55	30-40-50	11-20-27	1.30-1.43-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	3.0-4.5-6.0
	7-15	25-42-55	30-35-50	11-23-27	1.30-1.43-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	2.0-4.0-6.0
	15-38	15-37-55	25-35-50	20-28-35	1.40-1.55-1.70	0.60-1.30-2.00	0.15-0.18-0.20	0.00-3.50-5.90	0.5-1.2-2.0
	38-47	30-44-60	18-29-40	18-27-30	1.40-1.55-1.70	0.60-1.30-2.00	0.09-0.15-0.20	0.00-1.50-2.90	0.5-0.8-1.0
	47-80	25-54-88	10-32-55	2-14-20	1.50-1.60-1.70	0.60-1.30-2.00	0.10-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5
RqaG:									
Rodman----------	0-10	60-64-80	10-28-40	8-08-18	1.60-1.65-1.70	2.00-4.00-6.00	0.08-0.12-0.22	0.00-1.50-2.90	2.0-2.8-6.0
	10-18	23-67-80	10-23-50	5-10-25	1.50-1.60-1.70	2.00-4.00-6.00	0.08-0.12-0.22	0.00-1.50-2.90	0.5-1.2-2.0
	18-80	0-85-100	0-11-20	0-04-10	1.60-1.85-2.10	20.00-40.00-60.00	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
RtxAH:									
Rossburg--------	0-14	10-17-25	50-59-65	20-24-30	1.20-1.35-1.50	0.60-1.30-2.00	0.19-0.22-0.24	0.00-1.50-2.90	2.0-3.5-4.5
	14-34	15-18-40	40-52-60	20-30-35	1.20-1.35-1.50	0.60-1.30-2.00	0.19-0.22-0.24	0.00-1.50-2.90	2.0-3.5-4.5
	34-42	15-38-60	20-37-55	18-25-32	1.25-1.43-1.60	0.60-1.30-2.00	0.15-0.19-0.22	0.00-1.50-2.90	0.5-1.2-2.0
	42-80	25-82-90	4-08-60	5-10-15	1.30-1.45-1.60	2.00-4.25-6.00	0.05-0.10-0.15	0.00-1.50-2.90	0.5-1.2-2.0
RtxAK:									
Rossburg--------	0-14	10-17-25	50-59-65	20-24-30	1.20-1.35-1.50	0.60-1.30-2.00	0.19-0.22-0.24	0.00-1.50-2.90	2.0-3.5-4.5
	14-34	15-18-40	40-52-60	20-30-35	1.20-1.35-1.50	0.60-1.30-2.00	0.19-0.22-0.24	0.00-1.50-2.90	2.0-3.5-4.5
	34-42	15-38-60	20-37-55	18-25-32	1.25-1.43-1.60	0.60-1.30-2.00	0.15-0.19-0.22	0.00-1.50-2.90	0.5-1.2-2.0
	42-80	25-82-90	4-08-60	5-10-15	1.30-1.45-1.60	2.00-4.25-6.00	0.05-0.10-0.15	0.00-1.50-2.90	0.5-1.2-2.0
RywB2:									
Russell---------	0-8	8-10-25	55-76-80	11-14-20	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-1.5-3.0
	8-13	5-05-20	55-66-75	25-29-33	1.40-1.55-1.70	0.60-1.30-2.00	0.17-0.19-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	13-28	5-05-25	55-66-75	27-29-33	1.50-1.60-1.70	0.60-1.30-2.00	0.14-0.16-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	28-52	20-36-40	25-36-50	23-28-33	1.50-1.60-1.70	0.60-1.30-2.00	0.14-0.16-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	52-58	25-40-50	25-36-50	20-24-30	1.50-1.60-1.70	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	58-80	35-48-60	20-37-50	12-15-18	1.75-1.90-2.00	0.01-0.11-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
SfyA:									
Shircliff-------	0-8	2-10-15	59-70-83	15-20-26	1.30-1.43-1.55	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-19	2-06-10	54-62-74	24-32-36	1.40-1.50-1.60	0.60-1.30-2.00	0.16-0.19-0.22	3.00-4.50-5.90	0.5-0.8-1.0
	19-43	2-04-10	40-51-63	35-45-60	1.55-1.60-1.65	0.06-0.33-0.60	0.12-0.15-0.18	6.00-7.50-8.90	0.0-0.5-1.0
	43-80	2-04-10	40-56-74	24-40-50	1.50-1.58-1.65	0.06-0.13-0.20	0.12-0.17-0.22	3.00-4.50-5.90	0.0-0.2-0.5
SifE:									
Senachwine------	0-8	20-40-45	40-45-55	10-15-26	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.20-0.22	0.00-1.50-2.90	1.0-2.0-3.0
	8-26	15-42-45	25-30-50	27-28-32	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.20-0.22	0.00-1.50-2.90	1.0-2.0-3.0
	26-32	25-44-45	25-30-50	20-26-30	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.14-0.16	3.00-4.50-5.90	0.5-1.2-2.0
	32-60	25-46-60	20-39-45	10-15-18	1.60-1.70-1.80	0.01-0.10-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.5-0.8-1.0
SifG:									
Senachwine------	0-6	20-40-45	40-45-55	10-15-26	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.20-0.22	0.00-1.50-2.90	1.0-2.0-3.0
	6-26	15-42-45	25-30-50	27-28-32	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.20-0.22	0.00-1.50-2.90	1.0-2.0-3.0
	26-32	25-44-45	25-30-50	20-26-30	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.14-0.16	3.00-4.50-5.90	0.5-1.2-2.0
	32-60	25-46-60	20-39-45	10-15-18	1.60-1.70-1.80	0.01-0.10-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.5-0.8-1.0
SldAH:									
Shoals----------	0-8	15-26-40	40-52-60	10-22-26	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	8-33	20-40-55	25-35-55	15-25-33	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.19-0.22	0.00-2.50-5.90	0.5-1.2-2.0
	33-60	20-55-90	5-30-55	5-15-28	1.45-1.55-1.65	0.60-3.30-5.95	0.05-0.13-0.20	0.00-1.50-2.90	0.5-1.2-2.0
SldAW:									
Shoals----------	0-8	15-26-40	40-52-60	10-22-26	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	2.0-3.0-4.0
	8-33	20-40-55	25-35-55	15-25-33	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.19-0.22	0.00-2.50-5.90	0.5-1.2-2.0
	33-60	20-55-90	5-30-55	5-15-28	1.45-1.55-1.65	0.60-3.30-5.95	0.05-0.13-0.20	0.00-1.50-2.90	0.5-1.2-2.0

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
SnfA:									
Sleeth----------	0-9	30-40-50	30-45-50	10-15-24	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-14	30-40-50	30-42-55	17-18-24	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	14-38	30-41-60	20-32-40	20-27-35	1.50-1.60-1.70	0.60-1.30-2.00	0.07-0.17-0.18	3.00-4.50-5.90	0.5-0.8-1.0
	38-50	30-45-70	20-28-40	15-27-35	1.50-1.60-1.70	0.60-1.30-2.00	0.07-0.15-0.18	3.00-4.50-5.90	0.0-0.2-0.5
	50-60	85-89-95	5-08-15	2-03-05	1.60-1.70-1.80	20.00-40.00-60.00	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
SoaB:									
Spickert--------	0-7	1-06-10	66-77-85	12-17-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	7-36	1-02-05	63-70-75	24-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	36-57	8-10-25	47-67-78	14-23-28	1.60-1.70-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	57-74	8-10-35	40-60-78	14-30-33	1.50-1.60-1.70	0.06-0.33-0.60	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	74-80	---	---	---	---	0.00-0.18-0.60	---	---	---
SocAH:									
Sloan----------	0-15	10-12-25	45-57-60	27-31-40	1.25-1.38-1.50	0.60-1.30-2.00	0.18-0.20-0.22	3.00-4.50-5.90	3.0-3.5-5.0
	15-45	15-28-40	35-41-60	22-31-40	1.25-1.40-1.55	0.20-1.10-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.5-1.2-2.0
	45-60	15-50-64	25-29-60	10-21-35	1.20-1.35-1.50	0.20-1.10-2.00	0.13-0.16-0.18	0.00-1.50-2.90	0.0-0.2-0.5
SocAW:									
Sloan----------	0-15	10-12-25	45-57-60	27-31-40	1.25-1.38-1.50	0.60-1.30-2.00	0.18-0.20-0.22	3.00-4.50-5.90	3.0-3.5-5.0
	15-45	15-28-40	35-41-60	22-31-40	1.25-1.40-1.55	0.20-1.10-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.5-1.2-2.0
	45-60	15-50-65	25-29-60	10-21-35	1.20-1.35-1.50	0.20-1.10-2.00	0.13-0.16-0.18	0.00-1.50-2.90	0.0-0.2-0.5
SoeC2:									
Spickert--------	0-6	1-06-10	64-75-85	10-19-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	6-36	1-02-05	63-70-75	24-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	36-57	8-10-25	47-67-78	14-23-28	1.60-1.70-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	57-74	8-10-35	40-60-78	14-30-33	1.50-1.60-1.70	0.06-0.33-0.60	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	74-80	---	---	---	---	0.00-0.18-0.60	---	---	---
Wrays----------	0-6	2-03-12	62-79-84	14-18-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	6-25	2-03-12	54-67-76	22-30-34	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.19-0.24	3.00-4.50-5.90	0.5-0.8-1.0
	25-34	6-12-15	51-57-74	24-31-34	1.40-1.50-1.60	0.60-1.30-2.00	0.13-0.17-0.20	3.00-4.50-5.90	0.0-0.5-1.0
	34-44	8-12-20	50-71-80	12-17-30	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	44-60	---	---	---	---	0.00-0.18-0.60	---	---	---
SolC2:									
Spickert--------	0-6	1-06-10	64-75-85	10-19-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	6-36	1-02-05	63-70-75	24-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	36-57	8-10-25	47-67-78	14-23-28	1.60-1.70-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	57-74	8-10-35	40-60-78	14-30-33	1.50-1.60-1.70	0.06-0.33-0.60	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	74-80	---	---	---	---	0.00-0.18-0.60	---	---	---
Wrays----------	0-6	2-03-12	62-79-84	14-18-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	6-25	2-03-12	54-67-76	22-30-34	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.19-0.24	3.00-4.50-5.90	0.5-0.8-1.0
	25-34	6-12-15	51-57-74	24-31-34	1.40-1.50-1.60	0.60-1.30-2.00	0.13-0.17-0.20	3.00-4.50-5.90	0.0-0.5-1.0
	34-44	8-12-20	50-71-80	12-17-30	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	44-60	---	---	---	---	0.00-0.18-0.60	---	---	---
SolC3:									
Spickert--------	0-3	1-06-10	64-72-85	14-22-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	3-18	1-02-05	63-70-75	24-28-32	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	18-58	8-10-25	47-67-78	14-23-28	1.60-1.70-1.80	0.01-0.18-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	58-64	8-10-35	40-60-78	14-30-33	1.50-1.60-1.70	0.06-0.33-0.60	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	64-80	---	---	---	---	0.00-0.18-0.60	---	---	---
Wrays----------	0-3	2-03-12	62-75-84	14-22-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	3-26	2-03-12	54-67-76	22-30-34	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.19-0.24	3.00-4.50-5.90	0.5-0.8-1.0
	26-33	6-12-15	51-57-74	24-31-34	1.40-1.50-1.60	0.60-1.30-2.00	0.13-0.17-0.20	3.00-4.50-5.90	0.0-0.5-1.0
	33-41	8-12-20	50-71-80	12-17-30	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	41-60	---	---	---	---	0.00-0.18-0.60	---	---	---

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
StaAV:									
Steff----------	0-10	3-08-15	65-78-85	10-14-20	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-31	3-08-20	62-77-85	12-15-18	1.30-1.43-1.55	0.60-1.30-2.00	0.18-0.21-0.23	0.00-1.50-2.90	0.0-0.5-1.0
	31-60	3-10-55	35-74-85	10-16-25	1.40-1.53-1.65	0.60-3.30-6.00	0.08-0.15-0.21	0.00-1.50-2.90	0.0-0.2-0.5
StdAQ:									
Stendal---------	0-8	3-06-15	60-78-85	12-16-26	1.30-1.43-1.55	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-40	3-08-20	62-69-79	18-23-34	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	0.0-0.5-1.0
	40-60	3-10-45	40-67-75	15-23-34	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	0.0-0.2-0.5
StdAV:									
Stendal---------	0-11	3-06-15	60-78-85	12-16-26	1.30-1.43-1.55	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	11-41	3-08-20	62-69-79	18-23-34	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	0.0-0.5-1.0
	41-60	3-10-45	40-67-75	15-23-34	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	0.0-0.2-0.5
StmB:									
Stonehead-------	0-7	2-05-10	64-80-86	12-15-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.5-4.0
	7-30	2-04-05	60-68-72	26-28-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	30-46	1-04-05	35-46-61	38-50-60	1.45-1.53-1.60	0.06-0.13-0.20	0.09-0.12-0.15	3.00-4.50-5.90	0.0-0.2-0.5
	46-65	2-05-08	54-62-70	28-33-38	1.45-1.53-1.60	0.06-0.13-0.20	0.06-0.11-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	65-80	---	---	---	---	0.00-0.01-0.06	---	---	---
SucC2:									
Stonehead-------	0-5	2-05-10	64-76-86	12-19-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	5-30	2-04-05	60-68-72	26-28-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	30-46	1-04-05	35-46-61	38-50-60	1.45-1.53-1.60	0.06-0.13-0.20	0.09-0.12-0.15	3.00-4.50-5.90	0.0-0.2-0.5
	46-65	2-05-08	54-62-70	28-33-38	1.45-1.53-1.60	0.06-0.13-0.20	0.06-0.11-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	65-80	---	---	---	---	0.00-0.01-0.06	---	---	---
Coolville-------	0-8	1-03-10	64-79-87	12-18-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	8-21	1-03-05	56-66-72	27-31-39	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	21-37	1-04-12	40-54-64	35-42-58	1.40-1.53-1.65	0.06-0.13-0.20	0.10-0.13-0.15	3.00-4.50-5.90	0.0-0.2-0.5
	37-44	1-05-10	40-62-69	30-33-58	1.40-1.53-1.65	0.01-0.10-0.20	0.08-0.10-0.12	3.00-4.50-5.90	0.0-0.2-0.5
	44-60	---	---	---	---	0.00-0.01-0.06	---	---	---
SujD5:									
Stonehead, gullied--------	0-3	1-03-10	64-74-81	18-23-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.20-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	3-13	1-03-05	56-66-72	27-31-39	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	13-38	1-04-12	40-54-64	35-42-58	1.40-1.53-1.65	0.06-0.13-0.20	0.10-0.13-0.15	3.00-4.50-5.90	0.0-0.2-0.5
	38-44	1-05-10	40-62-69	30-33-58	1.40-1.53-1.65	0.01-0.10-0.20	0.08-0.10-0.12	3.00-4.50-5.90	0.0-0.2-0.5
	44-60	---	---	---	---	0.00-0.01-0.06	---	---	---
SulC2:									
Stonehead-------	0-5	2-05-10	64-76-86	12-19-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	5-30	2-04-05	60-68-72	26-28-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	30-46	1-04-05	35-46-61	38-50-60	1.45-1.53-1.60	0.06-0.13-0.20	0.09-0.12-0.15	3.00-4.50-5.90	0.0-0.2-0.5
	46-65	2-05-08	54-62-70	28-33-38	1.45-1.53-1.60	0.06-0.13-0.20	0.06-0.11-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	65-80	---	---	---	---	0.00-0.01-0.06	---	---	---
Wellrock--------	0-4	2-04-05	66-78-86	15-18-26	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	4-8	2-02-05	69-78-84	14-20-26	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.24-0.27	0.00-1.50-2.90	0.5-0.8-1.5
	8-28	2-02-05	61-69-74	24-29-34	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-0.8-1.0
	28-36	2-03-05	63-69-83	15-28-32	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.13-0.20	0.00-1.50-2.90	0.0-0.2-0.5
	36-52	2-04-05	63-72-83	15-24-32	1.40-1.50-1.60	0.20-0.40-0.60	0.06-0.13-0.20	0.00-1.50-2.90	0.0-0.2-0.5
	52-80	---	---	---	---	0.00-0.01-0.06	---	---	---
SuoAH:									
Stonelick-------	0-10	52-63-75	15-28-40	8-09-18	1.30-1.45-1.60	2.00-4.00-6.00	0.13-0.14-0.15	0.00-1.50-2.90	1.0-2.0-3.0
	10-60	42-63-90	10-28-40	0-09-18	1.50-1.60-1.70	2.00-4.00-6.00	0.11-0.12-0.13	0.00-1.50-2.90	0.5-1.2-2.0

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
Uaz:									
Udorthents, sandy.									
Uby:									
Udorthents, loamy.									
UemB:									
Urban land.									
Alvin----------	0-7	52-69-75	10-24-40	5-07-15	1.45-1.55-1.65	2.00-4.00-6.00	0.14-0.16-0.17	0.00-1.50-2.90	0.5-1.0-2.0
	7-10	55-71-85	5-22-35	5-07-15	1.45-1.55-1.65	2.00-4.00-6.00	0.10-0.14-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	10-40	50-74-75	5-12-30	5-14-22	1.45-1.55-1.65	2.00-4.00-6.00	0.12-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5
	40-70	75-81-95	2-09-25	5-10-18	1.40-1.53-1.65	2.00-4.00-6.00	0.10-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5
	70-80	75-89-95	2-05-15	3-06-10	1.45-1.55-1.65	6.00-13.00-20.00	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
Princeton-------	0-8	55-62-70	10-30-38	5-08-20	1.40-1.45-1.50	0.60-1.30-2.00	0.13-0.16-0.18	0.00-1.50-2.90	0.5-1.0-2.0
	8-41	40-63-75	5-18-35	18-19-25	1.50-1.55-1.60	0.60-1.30-2.00	0.07-0.16-0.18	0.00-1.50-2.90	0.5-0.8-1.0
	41-60	50-81-95	5-09-30	8-10-18	1.60-1.65-1.70	2.00-4.00-6.00	0.07-0.14-0.14	0.00-1.50-2.90	0.0-0.2-0.5
	60-80	75-90-95	1-05-20	4-05-10	1.50-1.60-1.70	6.00-13.00-20.00	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
UemC:									
Urban land.									
Alvin----------	0-7	52-69-75	10-24-40	5-07-15	1.45-1.55-1.65	2.00-4.00-6.00	0.14-0.16-0.17	0.00-1.50-2.90	0.5-1.0-2.0
	7-10	55-71-85	5-22-35	5-07-15	1.45-1.55-1.65	2.00-4.00-6.00	0.10-0.14-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	10-40	50-74-75	5-12-30	5-14-22	1.45-1.55-1.65	2.00-4.00-6.00	0.12-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5
	40-70	75-81-95	2-09-25	5-10-18	1.40-1.53-1.65	2.00-4.00-6.00	0.10-0.14-0.18	0.00-1.50-2.90	0.0-0.2-0.5
	70-80	75-89-95	2-05-15	3-06-10	1.45-1.55-1.65	6.00-13.00-20.00	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
Princeton-------	0-8	55-62-70	10-30-38	5-08-20	1.40-1.45-1.50	0.60-1.30-2.00	0.13-0.16-0.18	0.00-1.50-2.90	0.5-1.0-2.0
	8-41	40-63-75	5-18-35	18-19-25	1.50-1.55-1.60	0.60-1.30-2.00	0.07-0.16-0.18	0.00-1.50-2.90	0.5-0.8-1.0
	41-60	50-81-95	5-09-30	8-10-18	1.60-1.65-1.70	2.00-4.00-6.00	0.07-0.14-0.14	0.00-1.50-2.90	0.0-0.2-0.5
	60-80	75-90-95	1-05-20	4-05-10	1.50-1.60-1.70	6.00-13.00-20.00	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
UenA:									
Urban land.									
Fox----------	0-8	20-40-50	30-43-55	12-17-22	1.30-1.45-1.60	0.60-1.30-2.00	0.10-0.16-0.21	0.00-1.50-2.90	1.0-2.0-3.0
	8-22	20-45-50	20-28-40	22-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.23-0.30	3.00-4.50-5.90	0.5-0.8-1.0
	22-33	40-45-70	10-28-35	14-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.10-0.14-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	33-60	85-89-95	5-08-15	0-03-04	1.70-1.75-1.80	20.00-40.00-60.00	0.02-0.04-0.05	0.00-1.50-2.90	0.0-0.2-0.5
UenB:									
Urban land.									
Fox----------	0-7	20-40-50	30-43-55	12-17-22	1.30-1.45-1.60	0.60-1.30-2.00	0.10-0.16-0.21	0.00-1.50-2.90	1.0-2.0-3.0
	7-22	20-45-50	20-28-40	22-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.23-0.30	3.00-4.50-5.90	0.5-0.8-1.0
	22-33	40-45-70	10-28-35	14-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.10-0.14-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	33-60	85-89-95	5-08-15	0-03-04	1.70-1.75-1.80	20.00-40.00-60.00	0.02-0.04-0.05	0.00-1.50-2.90	0.0-0.2-0.5
UepC:									
Urban land.									
Fox----------	0-6	60-63-75	17-21-26	8-16-19	1.40-1.45-1.50	0.60-1.30-2.00	0.10-0.15-0.19	0.00-1.50-2.90	0.5-0.8-1.0
	6-22	20-45-50	20-28-40	22-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.23-0.30	3.00-4.50-5.90	0.5-0.8-1.0
	22-33	40-45-70	10-28-35	14-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.10-0.14-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	33-60	85-89-95	5-08-15	0-03-04	1.70-1.75-1.80	20.00-40.00-60.00	0.02-0.04-0.05	0.00-1.50-2.90	0.0-0.2-0.5

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
UepC:									
Casco----------	0-4	60-63-75	17-21-26	8-16-19	1.40-1.45-1.50	0.60-1.30-2.00	0.10-0.15-0.19	0.00-1.50-2.90	0.5-0.8-1.0
	4-12	20-46-50	20-27-40	24-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.23-0.30	3.00-4.50-5.90	0.5-0.8-1.0
	12-16	40-46-70	10-27-35	24-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.10-0.14-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	16-60	85-89-95	5-08-15	0-03-04	1.70-1.75-1.80	20.00-40.00-60.00	0.02-0.04-0.05	0.00-1.50-2.90	0.0-0.2-0.5
UfcB:									
Urban land.									
Cincinnati------	0-8	5-11-26	60-70-80	14-19-24	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-24	5-08-28	50-66-70	22-26-30	1.45-1.55-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	24-74	10-26-40	40-51-60	20-23-26	1.60-1.73-1.85	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	74-80	10-26-40	30-42-49	25-32-39	1.55-1.65-1.75	0.06-0.13-0.20	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
Nabb----------	0-7	10-17-28	50-68-75	8-15-22	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.9-3.0
	7-13	10-16-22	56-69-73	14-15-22	1.40-1.50-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	13-33	10-13-18	52-60-73	20-27-30	1.50-1.58-1.65	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	33-71	16-22-30	50-56-66	18-22-28	1.65-1.73-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	71-80	26-28-40	22-41-48	24-31-38	1.60-1.65-1.70	0.01-0.03-0.06	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
UfdA:									
Urban land.									
Cobbsfork-------	0-12	12-17-24	61-70-78	10-13-15	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.6-3.0
	12-18	12-17-24	50-65-78	10-18-26	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	18-38	10-13-20	50-63-70	20-24-30	1.40-1.50-1.60	0.20-1.10-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	38-50	18-19-28	44-60-62	20-21-28	1.60-1.70-1.80	0.06-0.13-0.20	0.08-0.12-0.15	0.00-1.50-2.90	0.0-0.2-0.5
	50-85	18-22-28	46-56-62	20-22-26	1.60-1.70-1.80	0.01-0.06-0.06	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	85-90	25-28-35	27-39-48	27-33-38	1.50-1.60-1.70	0.01-0.06-0.06	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
Avonburg--------	0-11	15-18-20	62-67-75	10-15-18	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.22-0.24	0.00-1.50-2.90	1.0-1.6-2.0
	11-21	15-18-20	60-66-73	12-16-20	1.35-1.45-1.55	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	21-37	5-11-20	50-62-71	24-27-30	1.40-1.50-1.60	0.06-0.33-0.60	0.14-0.18-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	37-52	5-20-20	52-56-73	22-24-28	1.60-1.65-1.70	0.01-0.18-0.20	0.09-0.10-0.11	0.00-1.50-2.90	0.0-0.2-0.5
	52-83	15-20-30	50-56-65	20-24-26	1.70-1.75-1.80	0.01-0.06-0.20	0.06-0.07-0.08	0.00-1.50-2.90	0.0-0.2-0.5
	83-90	20-30-40	30-36-40	27-34-40	1.50-1.60-1.70	0.06-0.13-0.20	0.06-0.07-0.08	3.00-4.50-5.90	0.0-0.2-0.5
UfnA:									
Urban land.									
Crosby----------	0-8	15-20-30	50-63-75	10-17-24	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.21-0.26	0.00-1.50-2.90	1.0-2.0-3.0
	8-11	15-20-30	50-63-75	10-17-24	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.21-0.26	0.00-1.50-2.90	1.0-1.5-2.0
	11-14	15-21-30	50-55-70	20-24-28	1.45-1.55-1.65	0.60-1.30-2.00	0.16-0.20-0.24	0.00-1.50-2.90	0.5-0.8-1.0
	14-28	10-21-30	35-43-60	35-36-45	1.45-1.55-1.65	0.60-1.30-2.00	0.07-0.14-0.21	3.00-4.50-5.90	0.5-0.8-1.0
	28-36	25-36-55	30-40-50	12-24-35	1.55-1.65-1.75	0.06-0.13-0.20	0.07-0.12-0.17	0.00-2.50-5.90	0.0-0.2-0.5
	36-80	30-40-60	28-45-50	10-15-25	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0.00-1.50-2.90	0.0-0.2-0.5
UfoA:									
Urban land.									
Cyclone---------	0-14	10-18-20	50-54-67	25-28-35	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	3.00-4.50-5.90	3.0-4.5-6.0
	14-20	2-12-19	44-62-66	25-26-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	20-49	2-12-19	44-58-66	25-30-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	49-60	15-35-45	40-41-60	15-24-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	60-80	30-40-56	34-45-50	9-15-25	1.60-1.65-1.75	0.20-0.40-0.60	0.02-0.03-0.04	0.00-1.50-2.90	0.5-0.8-1.0
UfxA:									
Urban land.									

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
UfxA:									
Fincastle-------	0-10	10-13-25	55-70-75	11-17-26	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-13	10-13-25	55-70-75	11-17-26	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	13-27	5-10-20	45-61-65	23-29-35	1.40-1.50-1.70	0.60-1.30-2.00	0.14-0.19-0.21	3.00-4.50-5.90	0.5-0.8-1.0
	27-50	25-40-50	25-32-45	25-28-32	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.16-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	50-59	30-45-50	25-35-45	12-20-30	1.75-1.80-2.00	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	59-80	35-45-60	20-40-50	12-15-26	1.75-1.80-2.00	0.01-0.03-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
UfyB:									
Urban land.									
Fincastle-------	0-10	10-13-25	55-70-75	11-17-26	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-13	10-13-25	55-70-75	11-17-26	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	13-27	5-10-20	45-61-65	23-29-35	1.40-1.50-1.70	0.60-1.30-2.00	0.14-0.19-0.21	3.00-4.50-5.90	0.5-0.8-1.0
	27-50	25-40-50	25-32-45	25-28-32	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.16-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	50-59	30-45-50	25-35-45	12-20-30	1.75-1.80-2.00	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	59-80	35-45-60	20-40-50	12-15-26	1.75-1.80-2.00	0.01-0.03-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
Russell---------	0-8	8-10-25	55-76-80	11-14-20	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-1.5-3.0
	8-13	5-05-20	55-66-75	25-29-33	1.40-1.55-1.70	0.60-1.30-2.00	0.17-0.19-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	13-28	5-05-25	55-66-75	27-29-33	1.50-1.60-1.70	0.60-1.30-2.00	0.14-0.16-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	28-52	20-36-40	25-36-50	23-28-33	1.50-1.60-1.70	0.60-1.30-2.00	0.14-0.16-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	52-58	25-40-50	25-36-50	20-24-30	1.50-1.60-1.70	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	58-80	35-48-60	20-37-50	12-15-18	1.75-1.90-2.00	0.01-0.11-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
UhyA:									
Urban land.									
Martinsville, sandy substratum-----	0-11	35-43-50	30-43-45	8-14-20	1.30-1.45-1.60	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	11-14	35-43-50	30-43-45	8-14-20	1.30-1.45-1.60	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	14-39	35-43-50	15-29-40	20-28-30	1.50-1.60-1.70	0.60-1.30-2.00	0.18-0.19-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	39-55	35-46-60	15-27-35	15-27-28	1.50-1.60-1.70	0.60-1.30-2.00	0.15-0.18-0.20	0.00-1.50-2.90	0.5-0.8-1.0
	55-72	40-54-90	5-36-55	8-10-12	1.70-1.75-1.80	2.00-4.00-6.00	0.05-0.08-0.10	0.00-1.50-2.90	0.0-0.2-0.5
	72-80	75-89-95	2-08-10	0-03-04	1.70-1.75-1.80	20.00-30.00-40.00	0.02-0.04-0.05	0.00-1.50-2.90	0.0-0.2-0.5
UkbC:									
Urban land.									
Miami----------	0-7	9-22-37	51-63-78	7-15-26	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-1.5-3.0
	7-13	5-20-20	35-53-60	24-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.16-0.18-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	13-31	15-31-40	30-38-50	27-31-35	1.40-1.55-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	31-36	35-38-55	30-40-45	15-22-25	1.60-1.70-1.80	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	36-80	35-45-60	30-40-50	10-15-20	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0.00-1.50-2.90	0.0-0.2-0.5
UkpA:									
Urban land.									
Ockley----------	0-10	30-41-45	30-43-45	11-16-20	1.20-1.35-1.65	0.60-1.30-2.00	0.20-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	10-24	40-44-60	20-27-40	20-29-35	1.60-1.65-1.70	0.60-1.30-2.00	0.12-0.20-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	24-38	40-62-70	5-11-35	20-27-35	1.60-1.65-1.70	0.60-1.30-2.00	0.12-0.19-0.19	3.00-4.50-5.90	0.5-0.8-1.0
	38-44	45-66-75	5-09-25	18-25-35	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.17-0.17	3.00-4.50-5.90	0.0-0.2-0.5
	44-80	85-93-98	1-05-10	2-02-05	1.60-1.70-2.10	20.00-40.00-60.00	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
UkqA:									
Urban land.									

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
UkqA:									
Nineveh---------	0-8	35-63-75	20-27-40	8-10-25	1.30-1.45-1.60	0.60-1.30-2.00	0.13-0.15-0.22	0.00-1.50-2.90	2.0-3.0-4.0
	8-13	40-50-70	20-32-35	15-18-25	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	2.0-3.0-4.0
	13-24	18-45-55	20-25-50	20-30-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	24-33	40-45-70	10-25-35	20-30-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	33-36	40-45-70	10-23-35	20-32-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	36-60	85-89-95	5-08-15	2-03-05	1.60-1.70-1.80	20.00-40.00-60.00	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
UkqB:									
Urban land.									
Nineveh---------	0-8	35-63-75	20-27-40	8-10-25	1.30-1.45-1.60	0.60-1.30-2.00	0.13-0.15-0.22	0.00-1.50-2.90	2.0-3.0-4.0
	8-13	40-50-70	20-32-35	15-18-25	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	2.0-3.0-4.0
	13-24	18-45-55	20-25-50	20-30-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	24-33	40-45-70	10-25-35	20-30-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	33-36	40-45-70	10-23-35	20-32-35	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.18-0.21	3.00-4.50-5.90	0.5-1.2-2.0
	36-60	85-89-95	5-08-15	2-03-05	1.60-1.70-1.80	20.00-40.00-60.00	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
UmqA:									
Urban land.									
Sleeth----------	0-9	30-40-50	30-45-50	10-15-24	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-14	30-40-50	30-42-55	17-18-24	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	14-38	30-41-60	20-32-40	20-27-35	1.50-1.60-1.70	0.60-1.30-2.00	0.07-0.17-0.18	3.00-4.50-5.90	0.5-0.8-1.0
	38-50	30-45-70	20-28-40	15-27-35	1.50-1.60-1.70	0.60-1.30-2.00	0.07-0.15-0.18	3.00-4.50-5.90	0.0-0.2-0.5
	50-60	85-89-95	5-08-15	2-03-05	1.60-1.70-1.80	20.00-40.00-60.00	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
UnnA:									
Urban land.									
Westland--------	0-10	30-35-45	25-37-40	27-28-32	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.23-0.23	3.00-4.50-5.90	3.0-4.5-6.0
	10-42	30-35-55	20-33-40	27-32-35	1.50-1.60-1.70	0.60-1.30-2.00	0.15-0.18-0.20	3.00-4.50-5.90	0.5-1.2-2.0
	42-49	40-45-70	10-28-35	10-27-30	1.50-1.60-1.70	0.60-1.30-2.00	0.10-0.16-0.20	0.00-1.50-2.90	0.5-1.2-2.0
	49-60	80-87-95	5-10-17	2-03-05	1.60-1.70-2.10	20.00-40.00-60.00	0.03-0.05-0.06	0.00-1.50-2.90	0.0-0.2-0.5
Usl:									
Udorthents, rubbish.									
W:									
Water.									
WaaAV:									
Wakeland--------	0-7	3-12-20	62-75-85	10-13-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	7-29	3-13-20	62-73-85	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	29-60	3-20-45	40-66-75	10-14-20	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.0-0.2-0.5
WaaAW:									
Wakeland--------	0-7	3-12-20	62-75-85	10-13-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	7-29	3-13-20	62-73-85	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	29-60	3-20-45	40-66-75	10-14-20	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.0-0.2-0.5
WacAW:									
Wakeland--------	0-7	3-12-20	62-75-85	10-13-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	7-29	3-13-20	62-73-85	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	29-60	3-20-45	40-66-75	10-14-20	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.0-0.2-0.5
Birds----------	0-8	4-10-20	55-70-81	15-20-25	1.30-1.40-1.50	0.60-1.30-2.00	0.21-0.23-0.25	0.00-1.50-2.90	1.0-2.0-3.0
	8-43	4-10-20	54-69-78	18-21-26	1.40-1.50-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	43-60	4-10-40	35-69-81	15-21-26	1.35-1.48-1.60	0.20-0.40-0.60	0.17-0.21-0.24	0.00-1.50-2.90	0.0-0.2-0.5

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi- bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
WbiAW:									
Wilbur----------	0-7	1-09-15	67-77-85	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	7-32	5-12-20	67-72-85	10-16-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	32-60	5-17-45	40-67-78	10-16-26	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	0.5-0.8-1.0
Wakeland--------	0-7	3-12-20	62-75-85	10-13-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	7-29	3-13-20	62-73-85	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.0-0.5-1.0
	29-60	3-20-45	40-66-75	10-14-20	1.30-1.40-1.50	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	0.0-0.2-0.5
WdlC2:									
Wawaka----------	0-4	10-31-35	40-47-70	15-22-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.4-3.0
	4-30	25-31-40	26-38-48	27-31-35	1.50-1.60-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	30-45	35-40-45	35-41-48	14-19-20	1.75-1.85-1.95	0.20-0.40-0.60	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
	45-80	45-58-75	10-20-40	10-22-30	1.40-1.55-1.70	0.60-1.98-6.00	0.11-0.15-0.19	0.00-1.50-2.90	0.0-0.2-0.5
WdrB2:									
Wawaka----------	0-7	10-20-30	44-61-78	12-19-26	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-1.5-3.0
	7-23	12-18-30	36-52-61	27-30-34	1.40-1.55-1.70	0.60-1.30-2.00	0.10-0.16-0.21	3.00-4.50-5.90	0.0-0.5-1.0
	23-57	25-31-40	26-38-48	27-31-35	1.50-1.60-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	57-66	35-40-45	35-41-48	14-19-20	1.75-1.85-1.95	0.20-0.40-0.60	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
	66-80	45-58-75	10-20-40	10-22-30	1.40-1.55-1.70	0.60-1.98-6.00	0.11-0.15-0.19	0.00-1.50-2.90	0.0-0.2-0.5
WokAW:									
Wilbur----------	0-7	1-09-15	67-77-85	10-14-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	7-32	5-12-20	62-72-85	10-16-18	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	0.5-1.2-2.0
	32-60	5-17-45	40-67-78	10-16-26	1.30-1.40-1.50	0.60-1.30-2.00	0.20-0.21-0.22	0.00-1.50-2.90	0.5-0.8-1.0
WolAV:									
Wilhite---------	0-9	2-05-10	40-53-58	40-42-50	1.40-1.50-1.60	0.06-0.13-0.20	0.12-0.15-0.18	3.00-5.90-8.90	1.0-2.0-3.0
	9-38	2-05-10	40-51-63	35-44-50	1.40-1.50-1.60	0.06-0.13-0.20	0.08-0.13-0.18	3.00-5.90-8.90	0.0-1.0-2.0
	38-60	5-07-15	40-51-60	35-42-50	1.40-1.50-1.60	0.01-0.04-0.06	0.08-0.13-0.18	3.00-5.90-8.90	0.0-0.5-1.0
WprAV:									
Wirt----------	0-8	27-41-55	35-45-55	10-14-18	1.30-1.43-1.55	0.60-1.30-2.00	0.19-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-38	27-41-60	22-43-55	7-16-18	1.40-1.48-1.55	0.60-1.30-2.00	0.11-0.16-0.20	0.00-1.50-2.90	0.0-0.5-1.0
	38-60	32-55-80	10-35-50	4-10-18	1.45-1.53-1.60	0.60-3.30-6.00	0.07-0.13-0.19	0.00-1.50-2.90	0.0-0.2-0.5
WprAW:									
Wirt----------	0-8	27-41-55	35-45-55	10-14-18	1.30-1.43-1.55	0.60-1.30-2.00	0.19-0.22-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	8-38	27-41-60	22-43-55	7-16-18	1.40-1.48-1.55	0.60-1.30-2.00	0.11-0.16-0.20	0.00-1.50-2.90	0.0-0.5-1.0
	38-60	32-55-80	10-35-50	4-10-18	1.45-1.53-1.60	0.60-3.30-6.00	0.07-0.13-0.19	0.00-1.50-2.90	0.0-0.2-0.5
WqlA:									
Westland--------	0-10	30-35-45	25-37-40	27-28-32	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.23-0.23	3.00-4.50-5.90	3.0-4.5-6.0
	10-42	30-35-55	20-33-40	27-32-35	1.50-1.60-1.70	0.60-1.30-2.00	0.15-0.18-0.20	3.00-4.50-5.90	0.5-1.2-2.0
	42-49	40-45-70	10-28-35	10-27-30	1.50-1.60-1.70	0.60-1.30-2.00	0.10-0.16-0.20	0.00-1.50-2.90	0.5-1.2-2.0
	49-60	80-87-95	5-10-17	2-03-05	1.60-1.70-2.10	20.00-40.00-60.00	0.03-0.05-0.06	0.00-1.50-2.90	0.0-0.2-0.5
WqlAQ:									
Westland--------	0-10	30-35-45	25-37-40	27-28-32	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.23-0.23	3.00-4.50-5.90	3.0-4.5-6.0
	10-42	30-35-55	20-33-40	27-32-35	1.50-1.60-1.70	0.60-1.30-2.00	0.15-0.18-0.20	3.00-4.50-5.90	0.5-1.2-2.0
	42-49	40-45-70	10-28-35	10-27-30	1.50-1.60-1.70	0.60-1.30-2.00	0.10-0.16-0.20	0.00-1.50-2.90	0.5-1.2-2.0
	49-60	80-87-95	5-10-17	2-03-05	1.60-1.70-2.10	20.00-40.00-60.00	0.03-0.05-0.06	0.00-1.50-2.90	0.0-0.2-0.5
WsuA:									
Whitaker--------	0-9	32-42-50	32-47-50	8-11-19	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	9-17	32-42-50	32-43-50	8-15-19	1.30-1.45-1.60	0.60-1.30-2.00	0.18-0.21-0.24	0.00-1.50-2.90	1.0-2.0-3.0
	17-39	30-46-65	10-26-40	18-28-33	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.5-0.8-1.0
	39-48	30-64-70	10-21-40	12-15-33	1.40-1.50-1.60	0.60-1.30-2.00	0.15-0.17-0.19	3.00-4.50-5.90	0.5-0.8-1.0
	48-60	30-63-90	5-25-55	3-12-18	1.50-1.60-1.70	0.60-3.30-6.00	0.19-0.20-0.21	0.00-1.50-2.90	0.0-0.2-0.5

Table 17a.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensi-bility	Organic matter
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct
WsyAQ:									
Whitaker--------	0-10	54-64-75	12-27-40	6-09-15	1.40-1.55-1.70	2.00-4.00-6.00	0.10-0.16-0.21	0.00-1.50-2.90	0.5-1.0-2.0
	10-25	54-63-75	12-25-40	6-12-15	1.40-1.55-1.70	2.00-4.00-6.00	0.09-0.14-0.18	0.00-1.50-2.90	0.0-0.3-0.5
	25-49	54-73-78	4-08-34	12-19-22	1.40-1.50-1.60	0.60-1.30-2.00	0.12-0.18-0.20	0.00-1.50-2.90	0.0-0.3-0.5
	49-56	65-77-80	4-08-20	8-15-19	1.40-1.55-1.70	2.00-4.00-6.00	0.09-0.14-0.18	0.00-1.50-2.90	0.0-0.3-0.5
	56-80	88-90-98	1-08-12	0-02-04	1.60-1.70-1.80	6.00-13.00-20.00	0.02-0.05-0.07	0.00-0.00-0.00	0.0-0.2-0.5
WufB2:									
Williamstown----	0-9	10-19-25	50-61-70	14-20-26	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.23-0.24	0.00-1.50-2.90	1.0-1.5-3.0
	9-33	15-35-45	20-35-55	27-30-35	1.50-1.60-1.70	0.60-1.30-2.00	0.12-0.14-0.16	3.00-4.50-5.90	0.5-0.8-1.0
	33-37	25-45-60	20-35-50	18-20-27	1.60-1.70-1.80	0.20-0.40-0.60	0.04-0.12-0.12	0.00-1.50-2.90	0.0-0.2-0.5
	37-80	35-45-60	20-40-50	12-15-26	1.75-1.80-2.00	0.01-0.03-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
XabB2:									
Xenia----------	0-8	10-10-25	55-74-75	11-16-20	1.20-1.45-1.65	0.60-1.30-2.00	0.22-0.23-0.24	0.00-1.50-2.90	1.0-1.5-3.0
	8-30	5-06-20	45-63-65	27-31-35	1.40-1.50-1.70	0.60-1.30-2.00	0.17-0.19-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	30-50	20-36-40	25-36-50	24-28-35	1.50-1.60-1.70	0.60-0.80-1.00	0.14-0.16-0.17	3.00-4.50-5.90	0.5-0.8-1.0
	50-58	25-37-50	25-43-50	20-20-30	1.50-1.60-1.70	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	58-80	35-46-60	20-39-50	12-15-18	1.75-1.90-2.00	0.01-0.03-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
XfuB2:									
Miami----------	0-8	9-22-37	51-63-78	7-15-26	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-1.2-3.0
	8-13	5-18-20	35-55-60	24-27-35	1.40-1.50-1.60	0.60-1.30-2.00	0.16-0.18-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	13-31	15-31-40	30-38-50	27-31-35	1.40-1.55-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	31-36	35-38-55	30-40-45	15-22-25	1.60-1.70-1.80	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	36-80	35-45-60	30-40-50	10-15-20	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0.00-1.50-2.90	0.0-0.2-0.5
Rainsville------	0-8	9-15-37	51-66-78	13-19-25	1.30-1.45-1.60	0.60-1.30-2.00	0.20-0.22-0.24	0.00-1.50-2.90	1.0-1.2-3.0
	8-13	5-18-20	35-56-60	24-26-30	1.40-1.50-1.60	0.60-1.30-2.00	0.16-0.18-0.20	3.00-4.50-5.90	0.5-0.8-1.0
	13-30	30-40-60	15-35-50	20-25-30	1.40-1.50-1.60	0.60-1.30-2.00	0.17-0.18-0.19	3.00-4.50-5.90	0.5-0.8-1.0
	30-42	30-40-60	15-35-50	20-25-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.16-0.18	3.00-4.50-5.90	0.5-0.8-1.0
	42-48	30-40-60	30-38-50	18-22-25	1.50-1.60-1.70	0.20-0.40-0.60	0.17-0.19-0.19	0.00-1.50-2.90	0.5-0.8-1.0
	48-60	35-40-51	30-42-50	15-18-22	1.75-1.80-2.00	0.01-0.03-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
XrbC2:									
Miami----------	0-8	30-40-50	35-42-55	12-18-24	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.22-0.26	0.00-1.50-2.90	1.0-1.5-3.0
	8-31	15-31-40	30-38-50	27-31-35	1.40-1.55-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	31-36	35-44-55	30-36-45	15-20-25	1.60-1.70-1.80	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	36-80	35-45-60	30-40-50	10-15-20	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0.00-1.50-2.90	0.0-0.2-0.5
Rainsville------	0-6	30-40-50	35-42-55	12-18-24	1.30-1.45-1.60	0.60-1.30-2.00	0.17-0.22-0.26	0.00-1.50-2.90	1.0-1.5-3.0
	6-30	30-40-60	15-35-49	20-25-30	1.40-1.50-1.60	0.60-1.30-2.00	0.17-0.18-0.19	3.00-4.50-5.90	0.5-0.8-1.0
	30-42	30-40-60	15-35-49	20-25-30	1.40-1.50-1.60	0.60-1.30-2.00	0.14-0.16-0.18	3.00-4.50-5.90	0.5-0.8-1.0
	42-48	35-44-51	30-34-49	18-22-25	1.50-1.60-1.70	0.20-0.40-0.60	0.17-0.19-0.19	0.00-1.50-2.90	0.5-0.8-1.0
	48-60	35-44-51	30-38-49	15-18-22	1.75-1.80-2.00	0.01-0.03-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
XrkD2:									
Miami----------	0-7	30-38-50	30-44-49	7-18-26	1.20-1.43-1.65	0.60-1.30-2.00	0.17-0.22-0.26	0.00-1.50-2.90	1.0-1.5-3.0
	7-31	30-36-44	28-33-49	27-31-35	1.40-1.55-1.70	0.60-1.30-2.00	0.07-0.14-0.21	3.00-4.50-5.90	0.0-0.2-0.5
	31-36	35-38-55	30-40-45	15-22-25	1.60-1.70-1.80	0.20-0.40-0.60	0.07-0.12-0.17	0.00-1.50-2.90	0.0-0.2-0.5
	36-80	35-45-60	30-40-50	10-15-20	1.75-1.85-2.00	0.01-0.03-0.20	0.01-0.02-0.03	0.00-1.50-2.90	0.0-0.2-0.5
Kendallville----	0-7	30-38-50	30-44-50	7-18-26	1.20-1.43-1.65	0.60-1.30-2.00	0.17-0.22-0.26	0.00-1.50-2.90	1.0-1.5-3.0
	7-34	30-40-60	15-29-49	23-31-35	1.40-1.53-1.65	0.60-1.30-2.00	0.12-0.14-0.16	3.00-4.50-5.90	0.0-0.2-0.5
	34-60	35-44-51	30-38-49	12-18-22	1.75-1.80-2.00	0.01-0.03-0.20	0.02-0.03-0.04	0.00-1.50-2.90	0.0-0.2-0.5
ZboA:									
Zipp----------	0-10	1-04-12	40-59-67	32-37-39	1.40-1.48-1.55	0.20-0.40-0.60	0.18-0.19-0.21	3.00-5.90-8.90	1.0-2.5-3.0
	10-45	1-09-12	40-47-64	35-44-55	1.55-1.60-1.65	0.06-0.13-0.20	0.11-0.12-0.13	3.00-5.90-8.90	0.5-1.0-1.5
	45-60	1-09-12	40-47-64	35-44-50	1.55-1.63-1.70	0.01-0.04-0.06	0.08-0.10-0.12	3.00-5.90-8.90	0.0-0.5-1.0

Table 17b.--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. The abbreviation "rv" stands for representative value. Representative values are indicative of conditions that occur most commonly.)

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
AddA:								
Avonburg----------	0-11	.55	.55	4	5	56	150	0.9
	11-21	.55	.55					
	21-37	.49	.49					
	37-52	.55	.55					
	52-83	.55	.55					
	83-90	.37	.43					
AddB2:								
Avonburg----------	0-7	.55	.55	4	5	56	100	3.0
	7-16	.55	.55					
	16-32	.49	.49					
	32-42	.55	.55					
	42-63	.55	.55					
	63-80	.37	.43					
AfsB:								
Alvin----------	0-7	.24	.24	5	3	86	150	4.0
	7-10	.17	.17					
	10-40	.17	.17					
	40-70	.17	.17					
	70-80	.15	.15					
Princeton----------	0-8	.24	.24	5	3	86	150	4.0
	8-41	.28	.28					
	41-60	.24	.24					
	60-80	.17	.17					
AfsC2:								
Alvin----------	0-7	.24	.24	5	3	86	80	9.0
	7-10	.17	.17					
	10-40	.17	.17					
	40-70	.17	.17					
	70-80	.15	.15					
Princeton----------	0-8	.24	.24	5	3	86	80	9.0
	8-41	.28	.28					
	41-60	.24	.24					
	60-80	.17	.17					
AmkA:								
Ayrshire----------	0-8	.28	.28	5	3	86	200	1.0
	8-14	.32	.32					
	14-35	.24	.24					
	35-45	.20	.20					
	45-55	.20	.20					
	55-80	.15	.15					
BbhA:								
Bartle----------	0-8	.55	.55	4	5	56	250	0.9
	8-17	.55	.55					
	17-30	.55	.55					
	30-50	.55	.55					
	50-80	.55	.55					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
BbiB:								
Bartle	0-8	.55	.55	4	5	56	100	3.0
	8-17	.55	.55					
	17-30	.55	.55					
	30-50	.55	.55					
	50-80	.55	.55					
Pekin	0-10	.55	.55	4	5	56	100	4.0
	10-24	.55	.55					
	24-45	.55	.55					
	45-80	.49	.55					
BcrAW:								
Beanblossom	0-5	.43	.49	4	5	56	300	2.0
	5-24	.20	.43					
	24-54	.10	.32					
	54-60	---	---					
BdhAH:								
Bellcreek	0-10	.24	.24	5	4	86	200	0.5
	10-48	.28	.28					
	48-64	.32	.32					
	64-80	.24	.28					
BfbAH:								
Bellcreek	0-10	.20	.20	5	6	48	200	0.5
	10-48	.28	.28					
	48-64	.32	.32					
	64-80	.24	.28					
BgeAW:								
Birds	0-8	.43	.43	5	6	48	300	0.3
	8-43	.49	.49					
	43-60	.49	.49					
BlgC2:								
Blocher	0-6	.49	.49	3	5	56	120	9.0
	6-26	.49	.49					
	26-66	.24	.32					
	66-76	.28	.32					
	76-80	.37	.43					
Cincinnati	0-8	.55	.55	4	5	56	120	9.0
	8-24	.55	.55					
	24-74	.49	.49					
	74-80	.32	.37					
BlgC3:								
Blocher	0-5	.49	.49	2	6	48	120	9.0
	5-18	.49	.49					
	18-47	.24	.32					
	47-64	.28	.32					
	64-80	.37	.43					
Cincinnati	0-5	.49	.49	2	6	48	120	9.0
	5-14	.55	.55					
	14-35	.49	.49					
	35-78	.32	.37					
	78-84	.32	.37					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
BlhD2:								
Blocher	0-6	.49	.49	3	5	56	100	14.0
	6-22	.49	.49					
	22-66	.24	.32					
	66-76	.28	.32					
	76-80	.37	.43					
Bonnell	0-6	.43	.43	5	5	56	100	19.0
	6-9	.49	.49					
	9-44	.17	.20					
	44-70	.24	.28					
	70-80	.24	.28					
BluC:								
Bloomfield	0-9	.10	.10	5	2	134	100	10.0
	9-33	.15	.15					
	33-72	.10	.10					
	72-80	.10	.10					
Alvin	0-7	.10	.10	5	2	134	100	10.0
	7-10	.17	.17					
	10-40	.17	.17					
	40-70	.17	.17					
	70-80	.15	.15					
BnuD3:								
Bonnell	0-3	.28	.28	4	6	48	100	19.0
	3-32	.17	.20					
	32-54	.24	.28					
	54-80	.24	.28					
Hickory	0-4	.28	.28	4	6	48	90	20.0
	4-38	.24	.28					
	38-44	.24	.28					
	44-60	.28	.32					
Blocher	0-4	.49	.49	2	6	48	100	14.0
	4-18	.49	.49					
	18-47	.24	.32					
	47-64	.28	.32					
	64-80	.37	.43					
BobE5:								
Bonnell, gullied	0-3	.28	.28	4	6	48	100	23.0
	3-25	.17	.20					
	25-38	.24	.28					
	38-60	.24	.28					
Hickory, gullied	0-3	.28	.28	4	6	48	100	23.0
	3-35	.24	.28					
	35-40	.24	.28					
	40-60	.28	.32					
BodAV:								
Bonnie	0-20	.43	.43	5	6	48	300	0.3
	20-31	.43	.43					
	31-60	.43	.43					
CldB2:								
Cincinnati	0-8	.55	.55	4	5	56	175	4.0
	8-31	.55	.55					
	31-72	.49	.49					
	72-80	.32	.37					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
CldB2:								
Blocher----------	0-7	.49	.49	3	5	56	175	4.0
	7-32	.49	.49					
	32-66	.24	.32					
	66-76	.28	.32					
	76-80	.37	.43					
ClfA:								
Cobbsfork----------	0-12	.55	.55	4	5	56	350	0.5
	12-18	.55	.55					
	18-38	.55	.55					
	38-50	.49	.49					
	50-85	.49	.49					
	85-90	.32	.37					
CmbAW:								
Cohoctah----------	0-15	.24	.28	5	5	56	300	0.3
	15-39	.24	.24					
	39-70	.28	.28					
CmzA:								
Cliftycreek----------	0-10	.49	.49	5	5	56	200	1.0
	10-14	.49	.49					
	14-56	.32	.32					
	56-64	.32	.37					
	64-70	.32	.37					
	70-80	---	---					
CmzB2:								
Cliftycreek----------	0-8	.49	.49	5	5	56	150	4.0
	8-14	.49	.49					
	14-56	.32	.32					
	56-64	.32	.37					
	64-70	.32	.37					
	70-80	---	---					
CmzC2:								
Cliftycreek----------	0-7	.49	.49	5	5	56	100	9.0
	7-14	.49	.49					
	14-56	.32	.32					
	56-64	.32	.37					
	64-70	.32	.37					
	70-80	---	---					
ColD2:								
Coolville----------	0-5	.49	.49	4	6	48	100	15.0
	5-18	.43	.49					
	18-39	.32	.37					
	39-45	.32	.43					
	45-60	---	---					
Rarden----------	0-6	.49	.49	3	6	48	100	15.0
	6-28	.24	.28					
	28-37	.32	.43					
	37-60	---	---					
Stonehead----------	0-5	.49	.49	4	5	56	100	13.0
	5-30	.49	.49					
	30-46	.37	.37					
	46-65	.43	.43					
	65-80	---	---					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
ConC3:								
Coolville----------	0-4	.49	.49	3	6	48	120	9.0
	4-17	.43	.49					
	17-38	.32	.37					
	38-43	.32	.43					
	43-60	---	---					
Rarden----------	0-6	.49	.49	2	7	38	120	9.0
	6-28	.24	.28					
	28-37	.32	.43					
	37-60	---	---					
CudA:								
Crosby----------	0-8	.43	.43	4	5	56	200	1.0
	8-11	.43	.43					
	11-14	.43	.43					
	14-28	.28	.32					
	28-36	.28	.37					
	36-80	.32	.43					
CulB:								
Crosby----------	0-8	.43	.43	4	5	56	150	3.0
	8-11	.43	.43					
	11-14	.43	.43					
	14-28	.28	.32					
	28-36	.28	.37					
	36-80	.32	.43					
Williamstown----------	0-9	.43	.43	4	6	48	130	3.0
	9-33	.32	.37					
	33-37	.37	.43					
	37-80	.43	.49					
CxdA:								
Cyclone----------	0-17	.28	.28	5	6	48	100	0.5
	17-52	.37	.37					
	52-58	.37	.37					
	58-65	.32	.32					
	65-80	.32	.37					
DbqE:								
Deam, very deep---------	0-11	.43	.43	3	6	48	130	18.0
	11-20	.43	.43					
	20-90	.43	.43					
EcyAH:								
Eel----------	0-8	.37	.37	5	5	56	150	0.5
	8-34	.32	.32					
	34-60	.32	.32					
	60-80	.28	.28					
EcyAW:								
Eel----------	0-8	.37	.37	5	5	56	150	0.5
	8-34	.32	.32					
	34-60	.32	.32					
	60-80	.28	.28					
EdeAW:								
Eel----------	0-8	.43	.43	5	5	56	150	0.5
	8-34	.32	.32					
	34-60	.32	.32					
	60-80	.28	.28					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
EepAQ:								
Elkinsville----------	0-9	.43	.43	5	5	56	200	1.0
	9-24	.43	.43					
	24-58	.28	.32					
	58-68	.28	.32					
	68-80	.24	.32					
FdbA:								
Fincastle----------	0-10	.49	.49	4	5	56	200	1.0
	10-13	.49	.49					
	13-27	.43	.43					
	27-50	.32	.37					
	50-59	.32	.37					
	59-80	.32	.37					
FdqB:								
Fincastle----------	0-10	.49	.49	4	5	56	150	3.0
	10-13	.49	.49					
	13-27	.43	.43					
	27-50	.32	.37					
	50-59	.32	.37					
	59-80	.32	.37					
Xenia----------	0-8	.49	.49	4	5	56	130	3.0
	8-30	.43	.43					
	30-50	.32	.37					
	50-58	.32	.37					
	58-80	.32	.37					
FexA:								
Fox----------	0-8	.24	.28	4	5	56	200	1.0
	8-22	.15	.28					
	22-33	.10	.20					
	33-60	.02	.10					
FexAQ:								
Fox----------	0-8	.24	.28	4	5	56	200	1.0
	8-22	.15	.28					
	22-33	.10	.20					
	33-60	.02	.10					
FexB2:								
Fox----------	0-7	.24	.28	4	5	56	100	4.0
	7-22	.15	.28					
	22-33	.10	.20					
	33-60	.02	.10					
FgqC3:								
Fox----------	0-6	.17	.20	3	3	86	100	9.0
	6-22	.15	.28					
	22-33	.10	.20					
	33-60	.02	.10					
Casco----------	0-4	.17	.20	2	3	86	100	9.0
	4-12	.15	.28					
	12-16	.10	.20					
	16-60	.02	.10					
GccAH:								
Genesee----------	0-10	.37	.37	5	6	48	250	0.5
	10-32	.37	.37					
	32-56	.32	.32					
	56-60	.32	.32					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
GccAW:								
Genesee	0-10	.37	.37	5	5	56	250	0.5
	10-32	.37	.37					
	32-56	.32	.32					
	56-60	.32	.32					
GcpAW:								
Genesee	0-10	.37	.37	5	6	48	250	0.5
	10-32	.37	.37					
	32-56	.32	.32					
	56-60	.32	.32					
GgbG:								
Gilwood	0-6	.32	.43	2	5	56	200	38.0
	6-11	.37	.55					
	11-22	.28	.55					
	22-32	.10	.55					
	32-60	---	---					
Brownstown	0-6	.32	.43	2	5	56	200	48.0
	6-18	.32	.64					
	18-36	.10	.64					
	36-60	---	---					
GgfD2:								
Gilwood	0-5	.32	.43	2	5	56	140	17.0
	5-11	.37	.55					
	11-22	.28	.55					
	22-32	.10	.55					
	32-60	---	---					
Wrays	0-6	.43	.43	3	5	56	140	14.0
	6-25	.49	.49					
	25-34	.37	.49					
	34-44	.17	.55					
	44-60	---	---					
HcgAW:								
Haymond	0-9	.43	.43	5	5	56	300	1.0
	9-44	.55	.55					
	44-60	.43	.49					
HctAW:								
Haymond	0-9	.43	.43	5	5	56	300	1.0
	9-44	.55	.55					
	44-60	.43	.49					
Wirt	0-8	.43	.43	5	5	56	300	1.0
	8-38	.32	.37					
	38-60	.24	.37					
HeoF:								
Hickory	0-7	.37	.37	5	5	56	100	37.0
	7-38	.24	.28					
	38-44	.24	.28					
	44-60	.28	.32					
HleAW:								
Holton	0-14	.43	.43	5	5	56	300	0.5
	14-41	.32	.37					
	41-60	.24	.37					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
KugG:								
Kurtz	0-6	.37	.43	4	5	56	300	35.0
	6-36	.43	.49					
	36-47	.43	.49					
	47-60	---	---					
Gnawbone	0-7	.43	.43	3	5	56	300	45.0
	7-27	.43	.49					
	27-39	.49	.55					
	39-60	---	---					
LeaA:								
Lauer	0-8	.49	.49	5	5	56	200	1.0
	8-45	.49	.49					
	45-71	.37	.37					
	71-80	.43	.43					
MecAQ:								
Martinsville	0-14	.37	.37	5	5	56	150	1.0
	14-30	.28	.28					
	30-66	.28	.28					
	66-80	.32	.37					
MecB:								
Martinsville	0-8	.37	.37	5	5	56	115	4.0
	8-17	.28	.28					
	17-48	.28	.28					
	48-80	.32	.37					
MfwA:								
Martinsville, sandy substratum	0-11	.37	.37	5	5	56	200	1.0
	11-14	.37	.37					
	14-39	.28	.28					
	39-55	.28	.28					
	55-72	.28	.28					
	72-80	.02	.10					
MfwAQ:								
Martinsville, sandy substratum	0-11	.37	.37	5	5	56	200	1.0
	11-14	.37	.37					
	14-39	.28	.28					
	39-55	.28	.28					
	55-72	.28	.28					
	72-80	.02	.10					
MfwB2:								
Martinsville, sandy substratum	0-8	.37	.37	5	5	56	150	4.0
	8-14	.37	.37					
	14-39	.28	.28					
	39-55	.28	.28					
	55-72	.28	.28					
	72-80	.02	.10					
MfxA:								
Martinsville, sandy substratum	0-10	.15	.15	5	3	86	200	1.0
	10-15	.17	.17					
	15-41	.15	.17					
	41-60	.15	.15					
	60-80	.02	.05					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
MhuA:								
McGary	0-11	.49	.49	4	6	48	200	1.0
	11-42	.37	.37					
	42-50	.28	.28					
	50-60	.32	.32					
MhyB:								
Medora	0-9	.55	.55	4	5	56	175	4.0
	9-32	.55	.55					
	32-60	.37	.43					
	60-80	.20	.24					
MhyC2:								
Medora	0-6	.55	.55	4	5	56	120	9.0
	6-26	.55	.55					
	26-40	.37	.43					
	40-80	.20	.24					
MjjAH:								
Medway	0-18	.28	.28	5	7	38	200	0.5
	18-48	.20	.20					
	48-60	.24	.17					
MmoC3:								
Miami	0-6	.32	.32	3	6	48	100	9.0
	6-29	.32	.32					
	29-34	.37	.43					
	34-80	.37	.43					
MmoD3:								
Miami	0-6	.32	.32	3	6	48	75	15.0
	6-29	.32	.32					
	29-34	.37	.43					
	34-80	.37	.43					
MnpB2:								
Miami	0-8	.43	.43	4	5	56	150	4.0
	8-13	.49	.49					
	13-31	.32	.32					
	31-36	.37	.43					
	36-80	.37	.43					
MnpC2:								
Miami	0-7	.43	.43	4	5	56	100	9.0
	7-13	.49	.49					
	13-31	.32	.32					
	31-36	.37	.43					
	36-80	.37	.43					
MnpD2:								
Miami	0-7	.43	.43	4	5	56	75	15.0
	7-13	.49	.49					
	13-31	.32	.32					
	31-36	.37	.43					
	36-80	.37	.43					
MqbA:								
Milton	0-9	.49	.49	2	5	56	200	1.0
	9-13	.49	.49					
	13-29	.32	.32					
	29-31	.32	.37					
	31-80	---	---					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
MqbB2:								
Milton	0-8	.49	.49	2	5	56	150	4.0
	8-13	.49	.49					
	13-29	.32	.32					
	29-31	.32	.37					
	31-80	---	---					
MqbC2:								
Milton	0-7	.49	.49	2	5	56	100	9.0
	7-13	.49	.49					
	13-29	.32	.32					
	29-31	.32	.37					
	31-80	---	---					
MrbF:								
Milton	0-6	.37	.37	3	6	48	50	35.0
	6-10	.37	.37					
	10-23	.32	.32					
	23-25	.32	.37					
	25-80	---	---					
Rock outcrop.								
NaaB2:								
Nabb	0-7	.55	.55	4	5	56	175	4.0
	7-13	.55	.55					
	13-33	.55	.55					
	33-71	.49	.49					
	71-80	.32	.37					
NpcA:								
Nineveh	0-10	.10	.15	4	8	38	200	1.0
	10-22	.15	.24					
	22-24	.15	.24					
	24-60	.02	.10					
NpcAQ:								
Nineveh	0-10	.10	.15	4	8	38	200	1.0
	10-22	.15	.24					
	22-24	.15	.24					
	24-60	.02	.10					
NpeA:								
Nineveh	0-8	.17	.17	4	3	86	150	1.0
	8-13	.15	.15					
	13-24	.15	.20					
	24-33	.15	.20					
	33-36	.15	.20					
	36-60	.02	.10					
NpeAQ:								
Nineveh	0-8	.17	.17	4	3	86	150	1.0
	8-13	.15	.15					
	13-24	.15	.20					
	24-33	.15	.20					
	33-36	.15	.20					
	36-60	.02	.10					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
NpeB2:								
Nineveh	0-8	.17	.17	4	3	86	130	4.0
	8-13	.15	.15					
	13-24	.15	.20					
	24-33	.15	.20					
	33-36	.15	.20					
	36-60	.02	.10					
ObaA:								
Ockley	0-10	.32	.37	4	5	56	150	1.0
	10-24	.10	.20					
	24-38	.10	.20					
	38-44	.15	.24					
	44-80	.02	.10					
OfaAW:								
Oldenburg	0-9	.43	.43	5	5	56	300	0.9
	9-39	.32	.37					
	39-60	.24	.37					
Omz:								
Orthents, earthen dam.								
PcrB2:								
Pekin	0-10	.55	.55	4	5	56	175	4.0
	10-24	.55	.55					
	24-45	.55	.55					
	45-80	.49	.55					
PcrC2:								
Pekin	0-8	.55	.55	4	5	56	120	9.0
	8-28	.55	.55					
	28-57	.55	.55					
	57-80	.49	.55					
PcrC3:								
Pekin	0-6	.55	.55	2	5	56	120	9.0
	6-18	.55	.55					
	18-42	.55	.55					
	42-80	.49	.55					
PhaA:								
Peoga	0-8	.55	.55	5	5	56	300	0.5
	8-19	.55	.55					
	19-36	.55	.55					
	36-76	.55	.55					
	76-80	.55	.55					
PlpAV:								
Piopolis	0-10	.43	.43	5	7	38	300	0.3
	10-31	.43	.43					
	31-60	.43	.43					
Pml:								
Pits, quarry.								
PnnD:								
Pike	0-7	.37	.37	5	5	56	100	15.0
	7-39	.49	.49					
	39-53	.43	.43					
	53-80	.20	.20					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
PnnD:								
Chetwynd----------	0-8	.37	.37	5	5	56	100	15.0
	8-15	.49	.49					
	15-39	.17	.20					
	39-56	.10	.15					
	56-80	.10	.10					
PnnF:								
Pike----------	0-7	.37	.37	5	5	56	100	35.0
	7-39	.49	.49					
	39-53	.43	.43					
	53-80	.20	.20					
Chetwynd----------	0-8	.37	.37	5	5	56	100	35.0
	8-15	.49	.49					
	15-39	.17	.20					
	39-56	.10	.15					
	56-80	.10	.10					
Ppu:								
Pits, sand and gravel.								
RctD3:								
Rarden----------	0-4	.49	.49	2	7	38	100	17.0
	4-24	.24	.28					
	24-32	.32	.43					
	32-60	---	---					
Coolville----------	0-4	.49	.49	3	6	48	100	15.0
	4-17	.43	.49					
	17-38	.32	.37					
	38-43	.32	.43					
	43-60	---	---					
RehA:								
Rensselaer----------	0-8	.32	.32	5	6	48	180	0.5
	8-14	.24	.24					
	14-38	.32	.32					
	38-47	.32	.32					
	47-80	.32	.37					
Treaty----------	0-14	.32	.32	5	6	48	180	0.5
	14-36	.37	.37					
	36-59	.32	.32					
	59-70	.32	.37					
ReyA:								
Rensselaer----------	0-7	.24	.24	5	5	56	200	0.5
	7-15	.24	.24					
	15-38	.32	.32					
	38-47	.32	.32					
	47-80	.32	.37					
ReyAQ:								
Rensselaer----------	0-7	.24	.24	5	5	56	200	0.5
	7-15	.24	.24					
	15-38	.32	.32					
	38-47	.32	.32					
	47-80	.32	.37					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
RqaG:								
Rodman	0-10	.10	.15	3	3	86	50	40.0
	10-18	.05	.24					
	18-80	.02	.10					
RtxAH:								
Rossburg	0-14	.37	.37	5	6	48	150	0.5
	14-34	.37	.37					
	34-42	.37	.37					
	42-80	.24	.28					
RtxAK:								
Rossburg	0-14	.37	.37	5	6	48	150	0.5
	14-34	.37	.37					
	34-42	.37	.37					
	42-80	.24	.28					
RywB2:								
Russell	0-8	.49	.49	4	5	56	130	4.0
	8-13	.43	.43					
	13-28	.32	.37					
	28-52	.32	.37					
	52-58	.32	.37					
	58-80	.32	.37					
SfyA:								
Shircliff	0-8	.49	.49	4	6	48	150	1.0
	8-19	.43	.43					
	19-43	.28	.28					
	43-80	.37	.37					
SifE:								
Senachwine	0-8	.37	.37	3	6	48	75	20.0
	8-26	.37	.37					
	26-32	.28	.32					
	32-60	.32	.43					
SifG:								
Senachwine	0-6	.37	.37	3	6	48	50	50.0
	6-26	.37	.37					
	26-32	.28	.32					
	32-60	.32	.43					
SldAH:								
Shoals	0-8	.37	.37	5	6	48	150	0.5
	8-33	.32	.32					
	33-60	.32	.37					
SldAW:								
Shoals	0-8	.37	.37	5	6	48	150	0.5
	8-33	.32	.32					
	33-60	.32	.37					
SnfA:								
Sleeth	0-9	.32	.32	4	5	56	200	1.0
	9-14	.28	.28					
	14-38	.17	.20					
	38-50	.15	.24					
	50-60	.02	.10					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
SoaB:								
Spickert	0-7	.55	.55	4	5	56	175	4.0
	7-36	.55	.55					
	36-57	.49	.55					
	57-74	.28	.49					
	74-80	---	---					
SocAH:								
Sloan	0-15	.24	.24	5	7	38	150	0.5
	15-45	.37	.20					
	45-60	.37	.28					
SocAW:								
Sloan	0-15	.24	.24	5	7	38	150	0.5
	15-45	.37	.20					
	45-60	.37	.28					
SoeC2:								
Spickert	0-6	.55	.55	4	5	56	130	9.0
	6-36	.55	.55					
	36-57	.49	.55					
	57-74	.28	.49					
	74-80	---	---					
Wrays	0-6	.43	.43	3	5	56	130	14.0
	6-25	.49	.49					
	25-34	.37	.49					
	34-44	.17	.55					
	44-60	---	---					
SolC2:								
Spickert	0-6	.55	.55	4	5	56	120	9.0
	6-36	.55	.55					
	36-57	.49	.55					
	57-74	.28	.49					
	74-80	---	---					
Wrays	0-6	.43	.43	3	5	56	120	9.0
	6-25	.49	.49					
	25-34	.37	.49					
	34-44	.17	.55					
	44-60	---	---					
SolC3:								
Spickert	0-3	.55	.55	2	6	48	120	9.0
	3-18	.55	.55					
	18-58	.49	.55					
	58-64	.28	.49					
	64-80	---	---					
Wrays	0-3	.43	.43	2	6	48	120	9.0
	3-26	.49	.49					
	26-33	.37	.49					
	33-41	.17	.55					
	41-60	---	---					
StaAV:								
Steff	0-10	.43	.43	5	5	56	300	0.9
	10-31	.49	.49					
	31-60	.28	.49					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
StdAQ:								
Stendal	0-8	.43	.43	5	5	56	300	0.5
	8-40	.49	.49					
	40-60	.49	.49					
StdAV:								
Stendal	0-11	.43	.43	5	5	56	300	0.5
	11-41	.49	.49					
	41-60	.49	.49					
StmB:								
Stonehead	0-7	.49	.49	4	5	56	175	4.0
	7-30	.49	.49					
	30-46	.37	.37					
	46-65	.43	.43					
	65-80	---	---					
SucC2:								
Stonehead	0-5	.49	.49	4	5	56	120	9.0
	5-30	.49	.49					
	30-46	.37	.37					
	46-65	.43	.43					
	65-80	---	---					
Coolville	0-8	.49	.49	4	5	56	120	9.0
	8-21	.43	.49					
	21-37	.32	.37					
	37-44	.32	.43					
	44-60	---	---					
SujD5:								
Stonehead, gullied	0-3	.55	.55	2	6	48	100	16.0
	3-13	.43	.49					
	13-38	.32	.37					
	38-44	.32	.43					
	44-60	---	---					
SulC2:								
Stonehead	0-5	.49	.49	4	5	56	120	10.0
	5-30	.49	.49					
	30-46	.37	.37					
	46-65	.43	.43					
	65-80	---	---					
Wellrock	0-4	.49	.49	4	5	56	120	13.0
	4-8	.55	.55					
	8-28	.49	.49					
	28-36	.43	.49					
	36-52	.43	.49					
	52-80	---	---					
SuoAH:								
Stonelick	0-10	.24	.24	5	3	86	100	1.0
	10-60	.17	.24					
Uaz:								
Udorthents, sandy	---	---	---	---	---	---	---	15.0
Uby:								
Udorthents, loamy	---	---	---	---	---	---	---	15.0
UemB:								
Urban land.								

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
UemB:								
Alvin	0-7	.24	.24	5	3	86	150	4.0
	7-10	.17	.17					
	10-40	.17	.17					
	40-70	.17	.17					
	70-80	.15	.15					
Princeton	0-8	.24	.24	5	3	86	150	4.0
	8-41	.28	.28					
	41-60	.24	.24					
	60-80	.17	.17					
UemC:								
Urban land.								
Alvin	0-7	.24	.24	5	3	86	80	9.0
	7-10	.17	.17					
	10-40	.17	.17					
	40-70	.17	.17					
	70-80	.15	.15					
Princeton	0-8	.24	.24	5	3	86	80	9.0
	8-41	.28	.28					
	41-60	.24	.24					
	60-80	.17	.17					
UenA:								
Urban land.								
Fox	0-8	.24	.28	4	5	56	200	1.0
	8-22	.15	.28					
	22-33	.10	.20					
	33-60	.02	.10					
UenB:								
Urban land.								
Fox	0-7	.24	.28	4	5	56	100	4.0
	7-22	.15	.28					
	22-33	.10	.20					
	33-60	.02	.10					
UepC:								
Urban land.								
Fox	0-6	.17	.20	3	3	86	100	9.0
	6-22	.15	.28					
	22-33	.10	.20					
	33-60	.02	.10					
Casco	0-4	.17	.20	2	3	86	100	9.0
	4-12	.15	.28					
	12-16	.10	.20					
	16-60	.02	.10					
UfcB:								
Urban land	---	---	---	---	---	---	---	6.0
Cincinnati	0-8	.55	.55	4	5	56	120	9.0
	8-24	.55	.55					
	24-74	.49	.49					
	74-80	.32	.37					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
UfcB:								
Nabb	0-7	.55	.55	4	5	56	175	4.0
	7-13	.55	.55					
	13-33	.55	.55					
	33-71	.49	.49					
	71-80	.32	.37					
UfdA:								
Urban land	---	---	---	---	---	---	---	1.0
Cobbsfork	0-12	.55	.55	4	5	56	350	0.5
	12-18	.55	.55					
	18-38	.55	.55					
	38-50	.49	.49					
	50-85	.49	.49					
	85-90	.32	.37					
Avonburg	0-11	.55	.55	4	5	56	150	0.9
	11-21	.55	.55					
	21-37	.49	.49					
	37-52	.55	.55					
	52-83	.55	.55					
	83-90	.37	.43					
UfnA:								
Urban land.								
Crosby	0-8	.43	.43	4	5	56	200	1.0
	8-11	.43	.43					
	11-14	.43	.43					
	14-28	.28	.32					
	28-36	.28	.37					
	36-80	.32	.43					
UfoA:								
Urban land.								
Cyclone	0-14	.28	.28	5	7	38	200	0.5
	14-20	.37	.37					
	20-49	.37	.37					
	49-60	.37	.37					
	60-80	.32	.37					
UfxA:								
Urban land.								
Fincastle	0-10	.49	.49	4	5	56	200	1.0
	10-13	.49	.49					
	13-27	.43	.43					
	27-50	.32	.37					
	50-59	.32	.37					
	59-80	.32	.37					
UfyB:								
Urban land.								
Fincastle	0-10	.49	.49	4	5	56	130	3.0
	10-13	.49	.49					
	13-27	.43	.43					
	27-50	.32	.37					
	50-59	.32	.37					
	59-80	.32	.37					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
UfyB:								
Russell	0-8	.49	.49	4	5	56	130	4.0
	8-13	.43	.43					
	13-28	.32	.37					
	28-52	.32	.37					
	52-58	.32	.37					
	58-80	.32	.37					
UhyA:								
Urban land.								
Martinsville, sandy substratum	0-11	.37	.37	5	5	56	200	1.0
	11-14	.37	.37					
	14-39	.28	.28					
	39-55	.28	.28					
	55-72	.28	.28					
	72-80	.02	.10					
UkbC:								
Urban land.								
Miami	0-7	.43	.43	4	5	56	100	9.0
	7-13	.49	.49					
	13-31	.32	.32					
	31-36	.37	.43					
	36-80	.37	.43					
UkpA:								
Urban land.								
Ockley	0-10	.32	.37	4	5	56	150	1.0
	10-24	.10	.20					
	24-38	.10	.20					
	38-44	.15	.24					
	44-80	.02	.10					
UkqA:								
Urban land.								
Nineveh	0-8	.17	.17	4	3	86	150	1.0
	8-13	.15	.15					
	13-24	.15	.20					
	24-33	.15	.20					
	33-36	.15	.20					
	36-60	.02	.10					
UkqB:								
Urban land.								
Nineveh	0-8	.17	.17	4	3	86	130	4.0
	8-13	.15	.15					
	13-24	.15	.20					
	24-33	.15	.20					
	33-36	.15	.20					
	36-60	.02	.10					
UmqA:								
Urban land.								

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
UmqA:								
Sleeth	0-9	.32	.32	4	5	56	200	1.0
	9-14	.28	.28					
	14-38	.17	.20					
	38-50	.15	.24					
	50-60	.02	.10					
UnnA:								
Urban land.								
Westland	0-10	.15	.15	4	6	48	200	0.5
	10-42	.20	.28					
	42-49	.10	.24					
	49-60	.02	.10					
Usl:								
Udorthents, rubbish	---	---	---	---	---	---	75	3.0
W:								
Water.								
WaaAV:								
Wakeland	0-7	.43	.43	5	5	56	300	0.5
	7-29	.55	.55					
	29-60	.49	.49					
WaaAW:								
Wakeland	0-7	.43	.43	5	5	56	300	0.5
	7-29	.55	.55					
	29-60	.49	.49					
WacAW:								
Wakeland	0-7	.43	.43	5	5	56	300	0.5
	7-29	.55	.55					
	29-60	.49	.49					
Birds	0-8	.43	.43	5	6	48	300	0.3
	8-43	.49	.49					
	43-60	.49	.49					
WbiAW:								
Wilbur	0-7	.43	.43	5	5	56	300	0.9
	7-32	.55	.55					
	32-60	.49	.49					
Wakeland	0-7	.43	.43	5	5	56	300	0.5
	7-29	.55	.55					
	29-60	.49	.49					
WdlC2:								
Wawaka	0-4	.37	.37	4	6	48	100	9.0
	4-30	.32	.32					
	30-45	.32	.43					
	45-80	.20	.20					
WdrB2:								
Wawaka	0-7	.43	.43	4	5	56	200	4.0
	7-23	.28	.37					
	23-57	.32	.32					
	57-66	.32	.43					
	66-80	.20	.20					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
WokAW:								
Wilbur	0-7	.43	.43	5	5	56	300	0.9
	7-32	.55	.55					
	32-60	.49	.49					
WolAV:								
Wilhite	0-9	.28	.28	5	4	86	250	0.3
	9-38	.37	.37					
	38-60	.37	.37					
WprAV:								
Wirt	0-8	.37	.37	5	5	56	300	1.0
	8-38	.32	.37					
	38-60	.24	.37					
WprAW:								
Wirt	0-8	.37	.37	5	5	56	300	1.0
	8-38	.32	.37					
	38-60	.24	.37					
WqlA:								
Westland	0-10	.15	.15	4	6	48	200	0.5
	10-42	.20	.28					
	42-49	.10	.24					
	49-60	.02	.10					
WqlAQ:								
Westland	0-10	.15	.15	4	6	48	200	0.5
	10-42	.20	.28					
	42-49	.10	.24					
	49-60	.02	.10					
WsuA:								
Whitaker	0-9	.28	.28	5	5	56	200	1.0
	9-17	.28	.28					
	17-39	.32	.32					
	39-48	.32	.32					
	48-60	.32	.32					
WsyAQ:								
Whitaker	0-10	.24	.24	5	3	86	100	0.9
	10-25	.24	.24					
	25-49	.20	.20					
	49-56	.20	.20					
	56-80	.28	.28					
WufB2:								
Williamstown	0-9	.43	.43	4	6	48	150	4.0
	9-33	.32	.37					
	33-37	.37	.43					
	37-80	.43	.49					
XabB2:								
Xenia	0-8	.49	.49	4	5	56	150	4.0
	8-30	.43	.43					
	30-50	.32	.37					
	50-58	.32	.37					
	58-80	.32	.37					

Table 17b.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index	Slope length (rv)	Slope gradient (rv)
	In						Ft	Pct
XfuB2:								
Miami	0-8	.43	.43	4	5	56	150	4.0
	8-13	.49	.49					
	13-31	.32	.32					
	31-36	.37	.43					
	36-80	.37	.43					
Rainsville	0-8	.43	.43	4	5	56	130	4.0
	8-13	.49	.49					
	13-30	.43	.43					
	30-42	.32	.37					
	42-48	.37	.43					
	48-60	.32	.37					
XrbC2:								
Miami	0-8	.37	.37	4	5	56	120	9.0
	8-31	.32	.37					
	31-36	.37	.43					
	36-80	.37	.43					
Rainsville	0-6	.37	.37	4	5	56	120	9.0
	6-30	.43	.43					
	30-42	.32	.37					
	42-48	.37	.43					
	48-60	.32	.37					
XrkD2:								
Miami	0-7	.37	.37	4	5	56	65	14.0
	7-31	.32	.32					
	31-36	.37	.43					
	36-80	.37	.43					
Kendallville	0-7	.37	.37	4	5	56	65	14.0
	7-34	.20	.28					
	34-60	.32	.37					
ZboA:								
Zipp	0-10	.43	.43	5	4	86	300	0.5
	10-45	.32	.32					
	45-60	.37	.37					

Table 18.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated. Properties are listed as low, representative, and high values separated by a hyphen. Low and high values reflect the normally expected range. Representative values are indicative of conditions that occur most commonly.)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
AddA:					
Avonburg----------	0-11	7.0-12.0-20.0	4.0-6.0-10.0	4.5-5.9-7.3	0
	11-21	5.0-7.0-10.0	4.0-6.0-8.0	4.5-5.0-5.5	0
	21-37	14.0-15.0-19.0	12.0-13.0-16.0	3.5-4.3-5.0	0
	37-52	10.0-12.0-14.0	8.0-10.0-12.0	3.5-4.3-5.0	0
	52-83	10.0-12.0-14.0	8.0-10.0-12.0	3.5-4.5-5.5	0
	83-90	16.0-20.0-24.0	13.0-17.0-20.0	5.1-5.9-7.3	0
AddB2:					
Avonburg----------	0-7	7.0-12.0-20.0	4.0-6.0-10.0	4.5-5.9-7.3	0
	7-16	5.0-7.0-10.0	4.0-6.0-8.0	4.5-5.0-5.5	0
	16-32	14.0-15.0-19.0	12.0-13.0-16.0	3.5-4.3-5.0	0
	32-42	10.0-12.0-14.0	8.0-10.0-12.0	3.5-4.3-5.0	0
	42-63	10.0-12.0-14.0	8.0-10.0-12.0	3.5-4.5-5.5	0
	63-80	16.0-20.0-24.0	13.0-17.0-20.0	5.1-5.9-7.3	0
AfsB:					
Alvin----------	0-7	4.0-5.0-11.0	3.0-4.0-8.0	5.1-6.2-7.3	0
	7-10	6.0-8.0-10.0	5.0-6.0-8.0	5.1-6.2-7.3	0
	10-40	6.0-9.0-10.0	5.0-6.0-8.0	5.1-6.2-7.3	0
	40-70	4.0-6.0-10.0	3.0-5.0-8.0	5.1-6.2-7.3	0
	70-80	2.0-4.0-5.0	---	6.1-7.4-8.4	0-13-25
Princeton----------	0-8	7.0-12.0-18.0	3.0-9.0-14.0	5.1-6.2-7.3	0
	8-41	8.0-10.0-17.0	5.0-8.0-13.0	5.1-5.5-6.5	0
	41-60	3.0-9.0-12.0	5.0-7.0-9.0	5.1-5.9-7.3	0
	60-80	2.0-5.0-7.0	2.0-4.0-5.0	5.1-7.4-8.4	0-13-40
AfsC2:					
Alvin----------	0-7	4.0-5.0-11.0	3.0-4.0-8.0	5.1-6.2-7.3	0
	7-10	6.0-8.0-10.0	5.0-6.0-8.0	5.1-6.2-7.3	0
	10-40	6.0-9.0-10.0	5.0-6.0-8.0	5.1-6.2-7.3	0
	40-70	4.0-6.0-10.0	3.0-5.0-8.0	5.1-6.2-7.3	0
	70-80	2.0-4.0-5.0	---	6.1-7.4-8.4	0-13-25
Princeton----------	0-8	7.0-12.0-18.0	3.0-9.0-14.0	5.1-6.2-7.3	0
	8-41	8.0-10.0-17.0	5.0-8.0-13.0	5.1-5.5-6.5	0
	41-60	3.0-9.0-12.0	5.0-7.0-9.0	5.1-5.9-7.3	0
	60-80	2.0-5.0-7.0	2.0-4.0-5.0	5.1-7.4-8.4	0-13-40
AmkA:					
Ayrshire----------	0-8	4.0-5.0-12.0	---	5.6-6.5-7.3	0
	8-14	4.0-6.0-12.0	---	5.6-6.5-7.3	0
	14-35	4.0-13.0-22.0	3.0-10.0-17.0	5.1-5.8-6.5	0
	35-45	4.0-10.0-11.0	3.0-8.0-8.0	5.1-6.2-7.3	0
	45-55	4.0-6.0-11.0	3.0-5.0-8.0	5.1-6.2-7.3	0
	55-80	1.0-4.0-6.0	---	6.6-7.5-8.4	0-5-10
BbhA:					
Bartle----------	0-8	5.0-10.0-15.0	3.0-7.0-12.0	4.5-5.9-7.3	0
	8-17	4.0-8.0-14.0	3.0-7.0-12.0	3.5-5.1-6.0	0
	17-30	10.0-13.0-19.0	8.0-11.0-15.0	3.5-4.4-6.0	0
	30-50	10.0-13.0-19.0	8.0-11.0-15.0	3.5-4.5-5.5	0
	50-80	6.0-11.0-14.0	5.0-9.0-12.0	4.5-5.0-7.3	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
BbiB:					
Bartle	0-8	5.0-10.0-15.0	3.0-7.0-12.0	4.5-5.9-7.3	0
	8-17	4.0-8.0-14.0	3.0-7.0-12.0	3.5-5.1-6.0	0
	17-30	10.0-13.0-19.0	8.0-11.0-15.0	3.5-4.4-6.0	0
	30-50	10.0-13.0-19.0	8.0-11.0-15.0	3.5-4.5-5.5	0
	50-80	6.0-11.0-14.0	5.0-9.0-12.0	4.5-5.0-7.3	0
Pekin	0-10	6.0-11.0-18.0	4.0-9.0-14.0	4.5-5.9-7.3	0
	10-24	7.0-11.0-15.0	6.0-9.0-13.0	4.5-4.8-7.3	0
	24-45	10.0-14.0-20.0	8.0-12.0-16.0	3.5-4.3-5.5	0
	45-80	6.0-12.0-19.0	5.0-10.0-15.0	4.5-4.9-7.3	0
BcrAW:					
Beanblossom	0-5	7.0-13.0-19.0	5.0-11.0-17.0	5.1-6.2-7.3	0
	5-24	5.0-9.0-14.0	3.0-7.0-12.0	5.1-6.0-7.3	0
	24-54	4.0-9.0-14.0	---	5.6-6.0-6.5	0
	54-60	---	---	---	---
BdhAH:					
Bellcreek	0-10	25.0-30.0-35.0	---	6.1-7.0-7.8	0-1-5
	10-48	15.0-27.5-40.0	---	6.1-7.0-7.8	0-0-5
	48-64	15.0-27.5-40.0	---	6.1-7.0-7.8	0-1-5
	64-80	2.0-10.5-19.0	---	6.6-7.5-8.4	0-20-30
BfbAH:					
Bellcreek	0-10	25.0-30.0-35.0	---	6.1-7.0-7.8	0-1-5
	10-48	15.0-27.5-40.0	---	6.1-7.0-7.8	0-0-5
	48-64	15.0-27.5-40.0	---	6.1-7.0-7.8	0-1-5
	64-80	2.0-10.5-19.0	---	6.6-7.5-8.4	0-20-30
BgeAW:					
Birds	0-8	9.0-14.0-20.0	---	5.6-6.5-7.3	0
	8-43	9.0-13.0-18.0	---	5.6-6.5-7.3	0
	43-60	5.0-10.0-15.0	---	5.6-6.6-7.8	0
BlgC2:					
Blocher	0-6	9.0-11.0-20.0	6.0-9.0-12.0	4.5-5.9-7.3	0
	6-26	10.0-12.0-14.0	8.0-10.0-12.0	4.5-5.0-5.5	0
	26-66	12.0-19.0-27.0	10.0-15.0-22.0	4.5-4.9-5.5	0
	66-76	18.0-20.0-26.0	---	5.6-6.7-7.8	0-0-5
	76-80	4.0-8.0-15.0	---	7.4-7.9-8.4	5-18-25
Cincinnati	0-8	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0
	8-24	6.0-11.0-14.0	5.0-9.0-12.0	4.5-4.9-5.5	0
	24-74	6.0-10.0-14.0	5.0-7.0-12.0	4.5-4.9-6.0	0
	74-80	10.0-15.0-22.0	8.0-13.0-18.0	4.5-5.5-6.5	0
BlgC3:					
Blocher	0-5	9.0-11.0-20.0	6.0-9.0-12.0	4.5-5.9-7.3	0
	5-18	10.0-12.0-14.0	8.0-10.0-12.0	4.5-5.0-5.5	0
	18-47	12.0-19.0-27.0	10.0-15.0-22.0	4.5-4.9-5.5	0
	47-64	18.0-20.0-26.0	---	5.6-6.7-7.8	0-0-5
	64-80	4.0-8.0-15.0	---	7.4-7.9-8.4	5-18-25
Cincinnati	0-5	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0
	5-14	6.0-11.0-14.0	5.0-9.0-12.0	4.5-4.9-5.5	0
	14-35	6.0-10.0-14.0	5.0-7.0-12.0	4.5-4.9-6.0	0
	35-78	10.0-15.0-22.0	8.0-13.0-18.0	4.5-5.5-6.5	0
	78-84	4.0-8.0-15.0	---	6.1-7.6-8.4	0-18-25

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
BlhD2:					
Blocher----------	0-6	9.0-11.0-16.0	6.0-9.0-12.0	4.5-5.9-7.3	0
	6-22	10.0-12.0-14.0	8.0-10.0-12.0	4.5-5.0-5.5	0
	22-66	12.0-19.0-27.0	10.0-15.0-22.0	4.5-5.0-5.5	0
	66-76	18.0-20.0-28.0	---	5.6-6.7-7.8	0-0-5
	76-80	4.0-8.0-15.0	---	7.4-7.9-8.4	5-15-25
Bonnell----------	0-6	10.0-14.0-18.0	7.0-11.0-15.0	4.5-5.9-7.3	0
	6-9	11.0-15.0-20.0	9.0-13.0-17.0	4.5-5.0-5.5	0
	9-44	17.0-24.0-31.0	15.0-20.0-25.0	4.5-5.3-5.5	0
	44-70	11.0-14.0-19.0	9.0-12.0-15.0	5.1-6.5-7.8	0-0-10
	70-80	5.0-11.0-18.0	---	7.4-7.9-8.4	10-18-25
BluC:					
Bloomfield----------	0-9	4.0-5.0-10.0	3.0-4.0-8.0	5.1-6.5-7.3	0
	9-33	3.0-6.0-7.0	2.0-5.0-5.0	5.1-6.5-7.3	0
	33-72	3.0-6.0-8.0	---	5.6-6.5-7.3	0
	72-80	3.0-6.0-8.0	---	6.1-7.4-8.4	0-13-20
Alvin----------	0-7	4.0-7.0-10.0	3.0-5.0-8.0	5.1-6.2-7.3	0
	7-10	6.0-8.0-10.0	5.0-6.0-8.0	5.1-6.2-7.3	0
	10-40	6.0-9.0-10.0	5.0-6.0-8.0	5.1-6.2-7.3	0
	40-70	4.0-6.0-10.0	3.0-5.0-8.0	5.1-6.2-7.3	0
	70-80	2.0-4.0-5.0	---	6.1-7.4-8.4	0-13-25
BnuD3:					
Bonnell----------	0-3	12.0-16.0-20.0	8.0-12.0-16.0	4.5-5.9-7.3	0
	3-32	17.0-24.0-31.0	15.0-20.0-25.0	4.5-5.0-5.5	0
	32-54	11.0-19.0-27.0	9.0-16.0-22.0	5.1-6.5-7.8	0-5-10
	54-80	5.0-11.0-18.0	---	7.4-7.9-8.4	10-18-25
Hickory----------	0-4	12.0-16.0-20.0	8.0-12.0-16.0	4.5-5.9-7.3	0
	4-38	10.0-16.0-25.0	8.0-14.0-20.0	4.5-5.3-6.0	0
	38-44	7.0-13.0-20.0	---	5.6-6.5-7.8	0-0-15
	44-60	5.0-10.0-15.0	---	7.4-7.9-8.4	5-20-25
Blocher----------	0-4	9.0-11.0-20.0	6.0-9.0-12.0	4.5-5.9-7.3	0
	4-18	10.0-12.0-14.0	8.0-10.0-12.0	4.5-5.0-5.5	0
	18-47	12.0-19.0-27.0	10.0-15.0-22.0	4.5-4.9-5.5	0
	47-64	18.0-20.0-26.0	---	5.6-6.7-7.8	0-0-5
	64-80	4.0-8.0-15.0	---	7.4-7.9-8.4	5-18-25
BobE5:					
Bonnell, gullied-----	0-3	12.0-16.0-20.0	8.0-12.0-16.0	4.5-5.9-7.3	0
	3-25	17.0-23.0-31.0	15.0-19.0-25.0	4.5-5.0-5.5	0
	25-38	11.0-19.0-27.0	9.0-16.0-22.0	5.1-6.5-7.8	0-0-10
	38-60	5.0-11.0-18.0	---	7.4-7.9-8.4	10-18-25
Hickory, gullied-----	0-3	12.0-16.0-20.0	8.0-12.0-16.0	4.5-5.9-7.3	0
	3-35	10.0-16.0-25.0	8.0-14.0-20.0	4.5-5.3-6.0	0
	35-40	9.0-14.0-19.0	---	5.6-6.5-7.8	0-0-15
	40-60	5.0-10.0-15.0	---	7.4-7.9-8.4	5-20-25
BodAV:					
Bonnie----------	0-20	5.0-10.0-16.0	4.0-8.0-12.0	4.5-5.9-7.3	0
	20-31	6.0-11.0-16.0	4.0-8.0-12.0	4.5-5.2-5.5	0
	31-60	12.0-14.0-16.0	10.0-11.0-12.0	4.5-5.4-6.5	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
CldB2:					
Cincinnati----------	0-8	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0
	8-31	6.0-11.0-14.0	5.0-9.0-12.0	4.5-4.9-5.5	0
	31-72	6.0-10.0-14.0	5.0-7.0-12.0	4.5-4.9-6.0	0
	72-80	10.0-15.0-22.0	8.0-13.0-18.0	4.5-5.5-6.5	0
Blocher----------	0-7	9.0-11.0-20.0	6.0-9.0-12.0	4.5-5.9-7.3	0
	7-32	10.0-12.0-14.0	8.0-10.0-12.0	4.5-5.0-5.5	0
	32-66	12.0-19.0-27.0	10.0-15.0-22.0	4.5-4.9-5.5	0
	66-76	18.0-20.0-26.0	---	5.6-6.7-7.8	0-0-5
	76-80	4.0-8.0-15.0	---	7.4-7.9-8.4	5-18-25
ClfA:					
Cobbsfork----------	0-12	6.0-10.0-18.0	3.0-7.0-10.0	4.5-5.9-7.3	0
	12-18	5.0-7.0-10.0	4.0-6.0-8.0	4.5-5.0-5.5	0
	18-38	7.0-13.0-17.0	6.0-11.0-15.0	3.5-4.5-5.0	0
	38-50	10.0-12.0-14.0	8.0-10.0-12.0	3.5-4.5-5.0	0
	50-85	10.0-12.0-14.0	8.0-10.0-12.0	3.5-4.8-5.5	0
	85-90	15.0-19.0-24.0	13.0-16.0-20.0	5.1-6.2-7.3	0
CmbAW:					
Cohoctah----------	0-15	10.0-17.0-24.0	---	6.1-7.0-7.8	0-0-10
	15-39	3.0-8.0-19.0	---	6.1-7.4-8.4	0-10-20
	39-70	3.0-4.0-14.0	---	7.4-7.6-8.4	5-15-30
CmzA:					
Cliftycreek----------	0-10	10.0-12.0-20.0	---	6.1-6.8-7.3	0
	10-14	10.0-13.0-25.0	---	6.1-6.6-7.3	0
	14-56	15.0-18.0-30.0	---	5.6-5.8-7.3	0
	56-64	25.0-33.0-40.0	---	5.6-6.3-7.3	0
	64-70	25.0-30.0-40.0	---	6.1-7.0-8.4	0-0-15
	70-80	---	---	---	---
CmzB2:					
Cliftycreek----------	0-8	10.0-12.0-20.0	---	6.1-6.8-7.3	0
	8-14	10.0-13.0-25.0	---	6.1-6.6-7.3	0
	14-56	15.0-18.0-30.0	---	5.6-5.8-7.3	0
	56-64	25.0-33.0-40.0	---	5.6-6.3-7.3	0
	64-70	25.0-30.0-40.0	---	6.1-7.0-8.4	0-0-15
	70-80	---	---	---	---
CmzC2:					
Cliftycreek----------	0-7	10.0-12.0-20.0	---	6.1-6.8-7.3	0
	7-14	10.0-13.0-25.0	---	6.1-6.6-7.3	0
	14-56	15.0-18.0-30.0	---	5.6-5.8-7.3	0
	56-64	25.0-33.0-40.0	---	5.6-6.3-7.3	0
	64-70	25.0-30.0-40.0	---	6.1-7.0-8.4	0-0-15
	70-80	---	---	---	---
ColD2:					
Coolville----------	0-5	7.0-13.0-20.0	4.0-7.0-15.0	3.5-5.4-7.3	0
	5-18	8.0-14.0-17.0	7.0-12.0-15.0	3.5-4.4-5.5	0
	18-39	17.0-23.0-31.0	15.0-19.0-25.0	3.5-4.5-5.5	0
	39-45	13.0-15.0-19.0	11.0-13.0-16.0	4.5-5.0-5.5	0
	45-60	---	---	---	---
Rarden----------	0-6	7.0-13.0-20.0	4.0-7.0-15.0	3.5-5.4-7.3	0
	6-28	15.0-21.0-30.0	13.0-18.0-24.0	3.5-4.4-5.5	0
	28-37	11.0-13.0-16.0	9.0-11.0-14.0	3.5-4.4-5.5	0
	37-60	---	---	---	---

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
ColD2:					
Stonehead----------	0-5	7.0-13.0-20.0	2.0-4.0-8.0	4.5-5.9-7.3	0
	5-30	6.0-10.0-14.0	5.0-8.0-12.0	3.5-4.4-5.5	0
	30-46	10.0-12.0-24.0	8.0-10.0-20.0	4.5-4.6-5.5	0
	46-65	10.0-12.0-16.0	8.0-10.0-14.0	4.5-4.6-5.5	0
	65-80	---	---	---	---
ConC3:					
Coolville----------	0-4	7.0-13.0-20.0	4.0-7.0-15.0	3.5-5.4-7.3	0
	4-17	8.0-14.0-17.0	7.0-12.0-15.0	3.5-4.4-5.5	0
	17-38	17.0-23.0-31.0	15.0-19.0-25.0	3.5-4.5-5.5	0
	38-43	13.0-15.0-19.0	11.0-13.0-16.0	4.5-5.0-5.5	0
	43-60	---	---	---	---
Rarden----------	0-6	15.0-20.0-25.0	11.0-14.0-17.0	3.5-5.8-7.3	0
	6-28	15.0-21.0-30.0	13.0-18.0-24.0	3.5-4.4-5.5	0
	28-37	11.0-13.0-16.0	9.0-11.0-14.0	3.5-4.4-5.5	0
	37-60	---	---	---	---
CudA:					
Crosby----------	0-8	6.0-11.0-20.0	5.0-10.0-15.0	5.1-6.2-7.3	0
	8-11	6.0-10.0-18.0	5.0-9.0-14.0	5.1-5.9-7.3	0
	11-14	7.0-14.0-30.0	5.0-9.0-14.0	5.1-5.5-7.3	0
	14-28	15.0-21.0-29.0	11.0-17.0-22.0	5.1-6.6-7.3	0
	28-36	5.0-12.0-17.0	---	7.4-7.5-8.4	5-11-40
	36-80	4.0-5.0-16.0	---	7.4-8.1-8.4	20-35-50
CulB:					
Crosby----------	0-8	6.0-11.0-20.0	5.0-10.0-15.0	5.1-6.2-7.3	0
	8-11	6.0-10.0-18.0	5.0-9.0-14.0	5.1-5.9-7.3	0
	11-14	7.0-14.0-30.0	5.0-9.0-14.0	5.1-5.5-7.3	0
	14-28	15.0-21.0-29.0	11.0-17.0-22.0	5.1-6.6-7.3	0
	28-36	5.0-12.0-17.0	---	7.4-7.5-8.4	5-11-40
	36-80	4.0-5.0-16.0	---	7.4-8.1-8.4	20-35-50
Williamstown---------	0-9	10.0-11.5-20.0	8.0-9.0-15.0	5.1-6.2-7.3	0
	9-33	15.0-17.0-25.0	11.0-13.0-19.0	5.1-5.9-7.3	0
	33-37	10.0-15.0-20.0	---	6.6-7.5-8.4	0-5-35
	37-80	5.0-10.0-15.0	---	7.4-7.9-8.4	20-32-45
CxdA:					
Cyclone----------	0-17	15.0-24.0-30.0	---	6.1-6.7-7.3	0
	17-52	11.0-22.0-25.0	---	6.1-6.7-7.3	0
	52-58	11.0-18.0-25.0	---	6.6-6.7-7.3	0-0-5
	58-65	7.0-12.0-17.0	---	6.6-7.2-7.8	0-13-25
	65-80	6.0-10.0-17.0	---	7.4-7.9-8.4	15-28-40
DbqE:					
Deam, very deep------	0-11	7.0-11.0-15.0	6.0-9.0-12.0	3.5-4.5-5.5	0
	11-20	7.0-11.0-14.0	6.0-9.0-12.0	3.5-4.4-5.5	0
	20-90	10.0-12.0-14.0	8.0-10.0-12.0	3.5-4.6-5.0	0
EcyAH:					
Eel----------	0-8	8.0-20.0-24.0	---	6.1-6.7-7.5	0-0-10
	8-34	8.0-16.0-24.0	---	6.1-7.0-7.5	0-0-15
	34-60	8.0-16.0-24.0	---	6.6-7.3-7.8	1-3-20
	60-80	5.0-12.0-19.0	---	7.4-7.4-8.4	1-5-20

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
EcyAW:					
Eel	0-8	8.0-20.0-24.0	---	6.1-6.7-7.5	0-0-10
	8-34	8.0-16.0-24.0	---	6.1-7.0-7.5	0-0-15
	34-60	8.0-16.0-24.0	---	6.6-7.3-7.8	1-3-20
	60-80	5.0-12.0-19.0	---	7.4-7.4-8.4	1-5-20
EdeAW:					
Eel	0-8	4.0-9.5-15.0	---	6.1-6.4-7.3	0
	8-34	8.0-16.0-24.0	---	6.1-7.0-7.3	0
	34-60	8.0-16.0-24.0	---	6.1-7.0-7.3	0-0-10
	60-80	5.0-12.0-19.0	---	7.0-7.4-7.8	0-5-20
EepAQ:					
Elkinsville	0-9	6.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0
	9-24	8.0-14.0-18.0	6.0-11.0-15.0	4.5-5.9-7.3	0
	24-58	12.0-15.0-19.0	10.0-13.0-16.0	4.5-5.0-5.5	0
	58-68	10.0-13.0-17.0	8.0-11.0-15.0	4.5-5.2-5.5	0
	68-80	7.0-12.0-15.0	6.0-10.0-12.0	4.5-5.6-6.0	0
FdbA:					
Fincastle	0-10	10.0-15.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0
	10-13	10.0-15.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0
	13-27	15.0-20.0-25.0	11.0-15.0-19.0	5.1-5.8-6.5	0
	27-50	15.0-20.0-25.0	11.0-15.0-19.0	5.1-6.9-7.8	0-3-5
	50-59	5.0-10.0-15.0	---	6.6-7.4-8.4	0-12-30
	59-80	5.0-10.0-15.0	---	7.4-8.0-8.4	15-24-40
FdqB:					
Fincastle	0-10	10.0-15.0-20.0	8.0-11.0-15.0	5.1-6.2-7.3	0
	10-13	10.0-15.0-20.0	8.0-11.0-15.0	5.1-6.2-7.3	0
	13-27	15.0-20.0-25.0	11.0-15.0-19.0	5.1-5.5-6.5	0
	27-50	15.0-20.0-25.0	11.0-15.0-19.0	5.1-6.5-7.8	0-5-10
	50-59	5.0-10.0-15.0	---	6.6-7.4-8.4	5-12-30
	59-80	5.0-10.0-15.0	---	7.4-7.9-8.4	15-28-40
Xenia	0-8	6.0-16.0-18.0	---	5.6-6.5-7.3	0
	8-30	12.0-23.0-26.0	9.0-17.0-20.0	5.1-6.2-7.3	0
	30-50	11.0-22.0-24.0	---	5.6-6.5-7.3	0
	50-58	6.0-16.0-17.0	---	6.6-7.9-8.4	0-10-20
	58-80	5.0-8.5-12.0	---	7.4-7.9-8.4	15-28-40
FexA:					
Fox	0-8	8.0-13.0-18.0	6.0-10.0-14.0	5.1-6.2-7.3	0
	8-22	14.0-17.0-20.0	11.0-13.0-15.0	5.1-6.2-7.3	0
	22-33	12.0-16.0-20.0	---	5.6-6.7-7.8	0-0-30
	33-60	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
FexAQ:					
Fox	0-8	8.0-13.0-18.0	6.0-10.0-14.0	5.1-6.2-7.3	0
	8-22	14.0-17.0-20.0	11.0-13.0-15.0	5.1-6.2-7.3	0
	22-33	12.0-16.0-20.0	---	5.6-6.7-7.8	0-0-30
	33-60	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
FexB2:					
Fox	0-7	8.0-13.0-18.0	6.0-10.0-14.0	5.1-6.2-7.3	0
	7-22	14.0-17.0-20.0	11.0-13.0-15.0	5.1-6.2-7.3	0
	22-33	12.0-16.0-20.0	---	5.6-6.7-7.8	0-0-30
	33-60	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
FgqC3:					
Fox	0-6	10.0-14.0-20.0	---	5.6-6.7-7.5	0
	6-22	14.0-17.0-20.0	11.0-13.0-15.0	5.1-6.2-7.5	0
	22-33	12.0-16.0-20.0	---	5.6-6.7-7.8	0-0-30
	33-60	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
Casco	0-4	10.0-14.0-20.0	---	5.6-6.7-7.5	0
	4-12	14.0-17.0-20.0	---	5.6-6.2-7.5	0
	12-16	12.0-16.0-20.0	---	5.6-7.4-7.8	0-10-30
	16-60	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
GccAH:					
Genesee	0-10	10.0-17.5-25.0	---	6.1-6.7-7.3	0
	10-32	5.0-10.0-15.0	---	6.1-7.4-7.8	0-0-25
	32-56	5.0-10.0-15.0	---	6.6-7.9-8.4	10-20-30
	56-60	5.0-10.0-15.0	---	6.6-7.9-8.4	10-30-30
GccAW:					
Genesee	0-10	10.0-17.5-25.0	---	6.1-6.7-7.3	0
	10-32	5.0-10.0-15.0	---	6.1-7.4-7.8	0-0-25
	32-56	5.0-10.0-15.0	---	6.6-7.9-8.4	10-20-30
	56-60	5.0-10.0-15.0	---	6.6-7.9-8.4	10-30-30
GcpAW:					
Genesee	0-10	10.0-17.5-25.0	---	6.1-6.7-7.3	0
	10-32	5.0-10.0-15.0	---	6.1-7.4-7.8	0-0-25
	32-56	5.0-10.0-15.0	---	6.6-7.9-8.4	10-20-30
	56-60	5.0-10.0-15.0	---	6.6-7.9-8.4	10-30-30
GgbG:					
Gilwood	0-6	5.0-9.0-15.0	4.0-8.0-12.0	4.5-5.5-6.5	0
	6-11	7.0-9.0-11.0	6.0-8.0-10.0	4.5-5.0-5.5	0
	11-22	7.0-9.0-11.0	6.0-8.0-10.0	3.5-4.6-5.0	0
	22-32	7.0-9.0-11.0	6.0-8.0-10.0	3.5-4.6-5.0	0
	32-60	---	---	---	---
Brownstown	0-6	5.0-6.0-10.0	3.0-4.0-6.0	3.5-4.5-6.5	0
	6-18	3.0-6.0-8.0	2.0-4.0-6.0	3.5-4.5-5.5	0
	18-36	3.0-6.0-8.0	2.0-4.0-6.0	3.5-4.6-5.5	0
	36-60	---	---	---	---
GgfD2:					
Gilwood	0-5	4.0-10.0-15.0	4.0-8.0-12.0	4.5-5.5-6.5	0
	5-11	7.0-9.0-11.0	6.0-8.0-10.0	4.5-5.0-5.5	0
	11-22	7.0-9.0-11.0	6.0-8.0-10.0	3.5-4.6-5.0	0
	22-32	7.0-9.0-11.0	6.0-8.0-10.0	3.5-4.6-5.0	0
	32-60	---	---	---	---
Wrays	0-6	8.0-14.0-20.0	3.0-5.0-8.0	4.5-5.9-7.3	0
	6-25	8.0-13.0-16.0	6.0-10.0-14.0	4.5-4.8-6.5	0
	25-34	14.0-17.0-21.0	12.0-15.0-18.0	3.5-4.4-5.0	0
	34-44	7.0-11.0-16.0	6.0-9.0-12.0	3.5-4.6-5.0	0
	44-60	---	---	---	---
HcgAW:					
Haymond	0-9	4.0-10.0-15.0	---	5.6-6.4-7.3	0
	9-44	10.0-13.0-16.0	---	5.6-6.4-7.3	0
	44-60	3.0-9.0-16.0	---	6.1-6.6-7.3	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
HctAW:					
Haymond	0-9	4.0-10.0-15.0	---	5.6-6.4-7.3	0
	9-44	10.0-13.0-16.0	---	5.6-6.4-7.3	0
	44-60	3.0-9.0-16.0	---	6.1-6.6-7.8	0
Wirt	0-8	5.0-10.0-15.0	---	5.6-6.4-7.3	0
	8-38	5.0-10.0-13.0	---	5.6-6.5-7.3	0
	38-60	3.0-9.0-12.0	---	5.6-6.5-7.3	0
HeoF:					
Hickory	0-7	9.0-11.0-16.0	6.0-9.0-12.0	4.5-5.5-6.0	0
	7-38	10.0-16.0-24.0	8.0-14.0-20.0	4.5-5.3-6.0	0
	38-44	9.0-14.0-19.0	---	5.6-6.5-7.8	0-0-15
	44-60	5.0-10.0-15.0	---	7.4-7.9-8.4	5-20-25
HleAW:					
Holton	0-14	5.0-8.0-12.0	---	5.6-6.1-7.3	0
	14-41	3.0-7.0-10.0	2.0-5.0-8.0	5.1-6.1-7.3	0
	41-60	3.0-8.0-14.0	---	6.1-6.6-7.3	0
KugG:					
Kurtz	0-6	5.0-8.0-12.0	4.0-7.0-10.0	3.5-4.3-5.0	0
	6-36	9.0-11.0-14.0	8.0-10.0-12.0	3.5-4.5-5.0	0
	36-47	9.0-11.0-14.0	8.0-10.0-12.0	4.5-5.0-5.5	0
	47-60	---	---	---	---
Gnawbone	0-7	5.0-9.0-16.0	4.0-8.0-12.0	3.5-4.3-5.0	0
	7-27	7.0-10.0-13.0	6.0-8.0-11.0	3.5-4.5-5.0	0
	27-39	7.0-9.0-12.0	6.0-8.0-10.0	3.5-4.5-5.0	0
	39-60	---	---	---	---
LeaA:					
Lauer	0-8	8.0-12.0-20.0	4.0-7.0-10.0	4.5-5.9-7.3	0
	8-54	12.0-16.0-21.0	10.0-14.0-18.0	4.5-5.0-5.5	0
	54-63	8.0-13.0-18.0	---	6.1-7.4-7.8	0-5-5
	63-80	6.0-11.0-15.0	---	7.4-8.0-8.4	5-24-30
MecAQ:					
Martinsville	0-14	9.0-14.5-20.0	7.0-11.0-16.0	5.1-6.2-7.3	0
	14-30	10.0-15.0-20.0	8.0-12.0-16.0	5.1-5.8-6.5	0
	30-66	6.0-12.5-19.0	5.0-10.0-15.0	5.1-6.5-7.8	0-0-20
	66-80	4.0-7.0-10.0	---	7.4-7.9-8.4	5-28-40
MecB:					
Martinsville	0-8	9.0-14.5-20.0	7.0-11.0-16.0	5.1-6.2-7.3	0
	8-17	10.0-15.0-20.0	8.0-12.0-16.0	5.1-5.8-6.5	0
	17-48	6.0-12.5-19.0	5.0-10.0-15.0	5.1-6.5-7.8	0-0-20
	48-80	4.0-7.0-10.0	---	7.4-7.9-8.4	5-28-40
MfwA:					
Martinsville, sandy substratum	0-11	10.0-12.5-15.0	8.0-9.0-11.0	5.1-6.2-7.3	0
	11-14	10.0-12.5-15.0	8.0-9.0-11.0	5.1-6.2-7.3	0
	14-39	10.0-12.5-15.0	8.0-9.0-11.0	5.1-5.8-7.3	0
	39-55	10.0-12.5-15.0	8.0-9.0-11.0	5.1-5.8-7.8	0
	55-72	5.0-10.0-15.0	---	7.4-7.9-8.4	10-28-45
	72-80	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
MfwAQ:					
Martinsville, sandy substratum----------	0-11	10.0-12.5-15.0	8.0-9.0-11.0	5.1-6.2-7.3	0
	11-14	10.0-12.5-15.0	8.0-9.0-11.0	5.1-6.2-7.3	0
	14-39	10.0-12.5-15.0	8.0-9.0-11.0	5.1-5.8-7.3	0
	39-55	10.0-12.5-15.0	8.0-9.0-11.0	5.1-5.8-7.8	0
	55-72	5.0-10.0-15.0	---	7.4-7.9-8.4	10-28-45
	72-80	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
MfwB2:					
Martinsville, sandy substratum----------	0-8	10.0-12.5-15.0	8.0-9.0-11.0	5.1-6.2-7.3	0
	8-14	10.0-12.5-15.0	8.0-9.0-11.0	5.1-6.2-7.3	0
	14-39	10.0-12.5-15.0	8.0-9.0-11.0	5.1-5.8-7.3	0
	39-55	10.0-12.5-15.0	8.0-9.0-11.0	5.1-5.8-7.8	0
	55-72	5.0-10.0-15.0	---	7.4-7.9-8.4	10-28-45
	72-80	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
MfxA:					
Martinsville, sandy substratum----------	0-10	7.0-10.0-14.0	5.0-8.0-10.0	5.1-5.9-7.3	0
	10-15	7.0-9.0-12.0	5.0-7.0-10.0	5.1-5.2-6.0	0
	15-41	7.0-10.0-14.0	5.0-8.0-10.0	5.1-5.3-6.0	0
	41-60	7.0-9.0-12.0	5.0-7.0-10.0	4.5-5.4-6.5	0
	60-80	0.0-2.5-5.0	---	7.4-8.3-8.4	10-25-30
MhuA:					
McGary----------	0-11	8.0-12.0-20.0	---	5.6-6.6-7.3	0
	11-42	12.0-20.0-24.0	10.0-16.0-20.0	4.5-6.6-7.8	0-0-15
	42-50	16.0-19.0-24.0	---	6.6-7.9-8.4	0-15-30
	50-60	10.0-15.0-18.0	---	7.4-8.0-8.4	10-30-40
MhyB:					
Medora----------	0-9	8.0-13.0-18.0	6.0-9.0-12.0	4.5-5.9-7.3	0
	9-32	9.0-12.0-15.0	7.0-10.0-12.0	4.5-5.0-5.5	0
	32-60	6.0-9.0-13.0	5.0-8.0-11.0	4.5-4.8-5.0	0
	60-80	13.0-15.0-21.0	10.0-12.0-18.0	4.5-5.0-5.5	0
MhyC2:					
Medora----------	0-6	8.0-13.0-18.0	6.0-9.0-12.0	4.5-5.9-7.3	0
	6-26	9.0-12.0-15.0	7.0-10.0-12.0	4.5-5.0-5.5	0
	26-40	6.0-9.0-13.0	5.0-8.0-11.0	4.5-4.8-5.0	0
	40-80	13.0-15.0-21.0	10.0-12.0-18.0	4.5-5.0-5.5	0
MjjAH:					
Medway----------	0-18	20.0-30.0-40.0	---	6.1-7.0-7.8	0
	18-48	10.0-15.0-20.0	---	6.1-7.3-8.4	0
	48-60	5.0-10.0-15.0	---	6.1-8.2-8.4	0-5-10
MmoC3:					
Miami----------	0-6	7.0-12.0-17.0	---	5.6-6.5-7.3	0
	6-29	9.0-14.5-20.0	7.0-11.0-15.0	5.1-6.1-7.3	0
	29-34	4.0-7.5-11.0	---	6.6-7.4-7.8	0-10-20
	34-80	2.0-5.5-9.0	---	7.4-7.9-8.4	20-33-45
MmoD3:					
Miami----------	0-6	7.0-12.0-17.0	---	5.6-6.5-7.3	0
	6-29	9.0-14.5-20.0	7.0-11.0-15.0	5.1-6.1-7.3	0
	29-34	4.0-7.5-11.0	---	6.6-7.4-7.8	0-10-20
	34-80	2.0-5.5-9.0	---	7.4-7.9-8.4	20-33-45

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
MnpB2:					
Miami	0-8	6.0-10.5-17.0	---	5.6-6.5-7.3	0
	8-13	16.0-20.0-25.0	12.0-15.0-19.0	5.1-5.9-7.3	0
	13-31	9.0-14.5-20.0	7.0-11.0-15.0	5.1-5.5-7.3	0
	31-36	4.0-7.5-11.0	---	6.6-7.4-7.8	0-10-20
	36-80	2.0-5.5-9.0	---	7.4-7.9-8.4	20-33-45
MnpC2:					
Miami	0-7	6.0-10.5-17.0	---	5.6-6.5-7.3	0
	7-13	16.0-20.0-25.0	12.0-15.0-19.0	5.1-5.9-7.3	0
	13-31	9.0-14.5-20.0	7.0-11.0-15.0	5.1-5.5-7.3	0
	31-36	4.0-7.5-11.0	---	6.6-7.4-7.8	0-10-20
	36-80	2.0-5.5-9.0	---	7.4-7.9-8.4	20-33-45
MnpD2:					
Miami	0-7	6.0-10.5-17.0	---	5.6-6.5-7.3	0
	7-13	16.0-20.0-25.0	12.0-15.0-19.0	5.1-5.9-7.3	0
	13-31	9.0-14.5-20.0	7.0-11.0-15.0	5.1-5.5-7.3	0
	31-36	4.0-7.5-11.0	---	6.6-7.4-7.8	0-10-20
	36-80	2.0-5.5-9.0	---	7.4-7.9-8.4	20-33-45
MqbA:					
Milton	0-9	10.0-15.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0
	9-13	10.0-11.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0
	13-29	15.0-22.0-30.0	11.0-17.0-23.0	5.1-6.2-7.8	0
	29-31	25.0-28.0-40.0	---	6.1-7.0-7.8	0-0-15
	31-80	---	---	---	---
MqbB2:					
Milton	0-8	10.0-15.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0
	8-13	10.0-11.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0
	13-29	15.0-22.0-30.0	11.0-17.0-23.0	5.1-6.2-7.8	0
	29-31	25.0-28.0-40.0	---	6.1-7.0-7.8	0-0-15
	31-80	---	---	---	---
MqbC2:					
Milton	0-7	10.0-15.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0
	7-13	10.0-11.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0
	13-29	15.0-22.0-30.0	11.0-17.0-23.0	5.1-6.2-7.8	0
	29-31	25.0-28.0-40.0	---	6.1-7.0-7.8	0-0-15
	31-80	---	---	---	---
MrbF:					
Milton	0-6	18.0-24.0-30.0	---	6.0-6.9-7.8	0
	6-10	18.0-20.0-30.0	---	6.0-6.9-7.8	0
	10-23	15.0-18.0-30.0	11.0-17.0-23.0	5.1-6.2-7.8	0
	23-25	20.0-25.0-30.0	---	6.6-7.2-7.8	0-0-15
	25-80	---	---	---	---
Rock outcrop.					
NaaB2:					
Nabb	0-7	7.0-11.0-20.0	4.0-8.0-12.0	4.5-5.9-7.3	0
	7-13	7.0-10.0-13.0	4.0-7.0-12.0	4.5-5.3-7.3	0
	13-33	10.0-14.0-19.0	8.0-12.0-16.0	3.5-4.8-5.5	0
	33-71	7.0-11.0-14.0	6.0-9.0-12.0	3.5-4.6-5.5	0
	71-80	15.0-17.0-22.0	12.0-14.0-19.0	5.1-5.6-7.3	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
NpcA:					
Nineveh	0-10	10.0-15.0-20.0	---	6.6-7.0-7.3	0
	10-22	10.0-10.5-20.0	---	6.6-7.2-7.8	0
	22-24	8.0-9.0-15.0	---	7.4-7.9-8.4	0-15-30
	24-60	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
NpcAQ:					
Nineveh	0-10	10.0-15.0-20.0	---	6.6-7.0-7.3	0
	10-22	10.0-10.5-20.0	---	6.6-7.2-7.8	0
	22-24	8.0-9.0-15.0	---	7.4-7.9-8.4	0-15-30
	24-60	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
NpeA:					
Nineveh	0-8	10.0-16.5-23.0	---	6.6-7.0-7.3	0
	8-13	10.0-16.5-23.0	---	6.6-7.0-7.3	0
	13-24	11.0-18.0-25.0	---	6.1-7.2-7.3	0-0-20
	24-33	11.0-18.0-25.0	---	6.1-7.2-7.3	0-0-20
	33-36	11.0-18.0-25.0	---	6.6-7.4-7.8	0-10-20
	36-60	0.0-1.0-2.0	---	7.4-7.9-8.4	10-25-40
NpeAQ:					
Nineveh	0-8	10.0-16.5-23.0	---	6.6-7.0-7.3	0
	8-13	10.0-16.5-23.0	---	6.6-7.0-7.3	0
	13-24	11.0-18.0-25.0	---	6.1-7.2-7.3	0-0-20
	24-33	11.0-18.0-25.0	---	6.1-7.2-7.3	0-0-20
	33-36	11.0-18.0-25.0	---	6.6-7.4-7.8	0-10-20
	36-60	0.0-1.0-2.0	---	7.4-7.9-8.4	10-25-40
NpeB2:					
Nineveh	0-8	10.0-16.5-23.0	---	6.6-7.0-7.3	0
	8-13	10.0-16.5-23.0	---	6.6-7.0-7.3	0
	13-24	11.0-18.0-25.0	---	6.1-7.2-7.3	0-0-20
	24-33	11.0-18.0-25.0	---	6.1-7.2-7.3	0-0-20
	33-36	11.0-18.0-25.0	---	6.6-7.4-7.8	0-10-20
	36-60	0.0-1.0-2.0	---	7.4-7.9-8.4	10-25-40
ObaA:					
Ockley	0-10	6.0-12.0-18.0	---	5.6-6.5-7.3	0
	10-24	9.0-16.0-23.0	7.0-12.0-17.0	5.1-6.2-6.5	0
	24-38	9.0-16.0-23.0	7.0-12.0-17.0	5.1-6.2-7.3	0
	38-44	9.0-17.0-26.0	7.0-13.0-20.0	5.1-6.7-7.8	0
	44-80	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
OfaAW:					
Oldenburg	0-9	6.0-10.0-16.0	4.0-8.0-11.0	5.1-6.6-7.3	0
	9-39	5.0-7.0-13.0	4.0-6.0-11.0	5.1-6.6-7.3	0
	39-60	2.0-3.0-10.0	---	5.6-6.6-7.3	0
Omz:					
Orthents, earthen dam					
PcrB2:					
Pekin	0-10	6.0-11.0-18.0	4.0-9.0-14.0	4.5-5.9-7.3	0
	10-24	7.0-11.0-15.0	6.0-9.0-13.0	4.5-4.8-7.3	0
	24-45	10.0-14.0-19.0	8.0-12.0-16.0	3.5-4.3-5.5	0
	45-80	6.0-12.0-18.0	5.0-10.0-15.0	4.5-4.9-7.3	0
PcrC2:					
Pekin	0-8	6.0-11.0-18.0	4.0-9.0-14.0	4.5-5.9-7.3	0
	8-28	7.0-11.0-15.0	6.0-9.0-13.0	4.5-4.8-7.3	0
	28-57	10.0-14.0-19.0	8.0-12.0-16.0	3.5-4.3-5.5	0
	57-80	6.0-12.0-18.0	5.0-10.0-15.0	4.5-4.9-7.3	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
PcrC3:					
Pekin	0-6	6.0-11.0-18.0	4.0-9.0-14.0	4.5-5.9-7.3	0
	6-18	7.0-11.0-15.0	6.0-9.0-13.0	4.5-4.8-7.3	0
	18-42	10.0-14.0-19.0	8.0-12.0-16.0	3.5-4.3-5.5	0
	42-80	6.0-12.0-18.0	5.0-10.0-15.0	4.5-4.9-7.3	0
PhaA:					
Peoga	0-8	8.0-12.0-22.0	4.0-8.0-12.0	4.5-5.9-7.3	0
	8-19	6.0-9.0-11.0	4.0-6.0-8.0	3.5-4.7-5.5	0
	19-36	9.0-16.0-20.0	7.0-12.0-15.0	3.5-4.7-5.5	0
	36-76	12.0-15.0-20.0	9.0-11.0-15.0	3.5-5.0-6.0	0
	76-80	12.0-16.0-22.0	10.0-13.0-18.0	5.1-5.6-7.3	0
PlpAV:					
Piopolis	0-10	11.0-15.0-20.0	8.0-11.0-14.0	5.1-5.9-7.3	0
	10-31	11.0-14.0-17.0	8.0-11.0-14.0	4.5-5.2-5.5	0
	31-60	11.0-14.0-18.0	8.0-11.0-15.0	4.5-5.4-7.3	0
Pml:					
Pits, quarry.					
PnnD:					
Pike	0-7	7.0-12.0-17.0	6.0-10.0-15.0	4.5-5.0-5.5	0
	7-39	10.0-13.0-17.0	8.0-11.0-15.0	4.5-5.0-5.5	0
	39-53	7.0-10.0-12.0	6.0-8.0-10.0	4.5-5.0-5.5	0
	53-80	4.0-6.0-12.0	3.0-5.0-10.0	4.5-5.0-5.5	0
Chetwynd	0-8	9.0-14.0-20.0	5.0-6.0-10.0	4.5-5.0-6.0	0
	8-15	8.0-11.0-16.0	7.0-10.0-14.0	4.5-4.7-5.5	0
	15-39	7.0-10.0-16.0	6.0-9.0-14.0	4.5-4.7-5.5	0
	39-56	7.0-10.0-16.0	6.0-9.0-14.0	4.5-4.7-5.5	0
	56-80	3.0-6.0-11.0	2.0-5.0-9.0	4.5-5.4-6.0	0
PnnF:					
Pike	0-7	8.0-13.0-20.0	6.0-10.0-15.0	4.5-5.0-5.5	0
	7-39	10.0-13.0-17.0	8.0-11.0-15.0	4.5-5.0-5.5	0
	39-53	7.0-10.0-12.0	6.0-8.0-10.0	4.5-5.0-5.5	0
	53-80	4.0-6.0-12.0	3.0-5.0-10.0	4.5-5.0-5.5	0
Chetwynd	0-8	9.0-14.0-20.0	5.0-6.0-10.0	4.5-5.0-6.0	0
	8-15	8.0-11.0-16.0	7.0-10.0-14.0	4.5-4.7-5.5	0
	15-39	7.0-10.0-16.0	6.0-9.0-14.0	4.5-4.7-5.5	0
	39-56	7.0-10.0-16.0	6.0-9.0-14.0	4.5-4.7-5.5	0
	56-80	3.0-6.0-11.0	2.0-5.0-9.0	4.5-5.4-6.0	0
Ppu:					
Pits, sand and gravel					
RctD3:					
Rarden	0-4	15.0-20.0-25.0	11.0-14.0-17.0	3.5-5.8-7.3	0
	4-24	15.0-21.0-30.0	13.0-18.0-24.0	3.5-4.4-5.5	0
	24-32	11.0-13.0-16.0	9.0-11.0-14.0	3.5-4.4-5.5	0
	32-60	---	---	---	---
Coolville	0-4	7.0-13.0-20.0	4.0-7.0-15.0	3.5-5.4-7.3	0
	4-17	8.0-14.0-17.0	7.0-12.0-15.0	3.5-4.4-5.5	0
	17-38	17.0-23.0-31.0	15.0-19.0-25.0	3.5-4.5-5.5	0
	38-43	13.0-15.0-19.0	11.0-13.0-16.0	4.5-5.0-5.5	0
	43-60	---	---	---	---

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
RehA:					
Rensselaer----------	0-8	10.0-19.5-29.0	---	6.1-6.7-7.3	0
	8-14	15.0-21.5-28.0	---	6.1-6.7-7.3	0
	14-38	10.0-17.0-24.0	---	6.1-6.7-7.3	0
	38-47	10.0-15.0-20.0	---	7.4-7.9-8.4	5-15-25
Treaty----------	0-14	10.0-19.5-29.0	---	5.6-6.5-7.3	0
	14-36	13.0-20.0-25.0	---	6.1-7.0-7.8	0-0-10
	36-59	9.0-16.0-23.0	---	6.6-7.3-8.4	0-0-25
	59-70	5.0-8.5-12.0	---	7.4-7.9-8.4	15-28-40
ReyA:					
Rensselaer----------	0-7	10.0-19.5-29.0	---	6.1-6.7-7.3	0
	7-15	10.0-19.5-29.0	---	6.1-6.7-7.3	0
	15-38	10.0-17.0-24.0	---	6.1-6.7-7.3	0
	38-47	10.0-15.0-20.0	---	6.6-7.4-7.8	0-5-10
	47-80	1.0-7.0-13.0	---	7.4-7.9-8.4	5-15-25
ReyAQ:					
Rensselaer----------	0-7	10.0-19.5-29.0	---	6.1-6.7-7.3	0
	7-15	10.0-19.5-29.0	---	6.1-6.7-7.3	0
	15-38	10.0-17.0-24.0	---	6.1-6.7-7.3	0
	38-47	10.0-15.0-20.0	---	6.6-7.4-7.8	0-5-10
	47-80	1.0-7.0-13.0	---	7.4-7.9-8.4	5-15-25
RqaG:					
Rodman----------	0-10	7.0-17.0-27.0	---	6.6-7.2-7.8	0-8-15
	10-18	3.0-11.0-19.0	---	6.6-7.4-7.8	0-10-30
	18-80	0.0-3.5-7.0	---	7.4-7.9-8.4	20-38-55
RtxAH:					
Rossburg----------	0-14	9.0-16.5-24.0	---	6.1-7.0-7.5	0-0-10
	14-34	9.0-18.0-24.0	---	6.1-7.0-7.5	0-0-10
	34-42	7.0-15.0-16.0	---	6.1-7.4-7.8	0-10-20
	42-80	2.0-5.5-9.0	---	6.6-7.4-8.4	0-20-20
RtxAK:					
Rossburg----------	0-14	9.0-16.5-24.0	---	6.1-7.0-7.5	0-0-10
	14-34	9.0-18.0-24.0	---	6.1-7.0-7.5	0-0-10
	34-42	7.0-15.0-16.0	---	6.1-7.4-7.8	0-10-20
	42-80	2.0-5.5-9.0	---	6.6-7.9-8.4	0-20-20
RywB2:					
Russell----------	0-8	6.0-11.0-18.0	5.0-8.0-14.0	5.1-6.2-7.3	0
	8-13	10.0-18.0-19.0	8.0-11.0-14.0	4.5-5.3-6.0	0
	13-28	17.0-20.0-25.0	13.0-17.0-19.0	4.5-4.9-6.0	0
	28-52	10.0-19.0-22.0	8.0-12.0-17.0	5.1-6.2-7.3	0
	52-58	6.0-11.5-17.0	---	6.6-7.9-8.4	0-10-20
	58-80	5.0-8.5-12.0	---	7.4-7.9-8.4	15-28-40
SfyA:					
Shircliff----------	0-8	9.0-12.0-20.0	4.0-7.0-12.0	5.1-5.9-7.3	0
	8-19	10.0-13.0-17.0	6.0-9.0-14.0	4.5-5.0-6.0	0
	19-43	16.0-20.0-24.0	12.0-16.0-20.0	4.5-5.5-7.8	0-0-5
	43-80	10.0-14.0-18.0	---	7.8-8.1-8.4	10-25-45
SifE:					
Senachwine----------	0-8	9.0-15.5-22.0	---	5.6-6.6-7.3	0
	8-26	9.0-15.5-22.0	7.0-12.0-17.0	5.1-6.6-7.3	0
	26-32	11.0-18.0-25.0	---	6.6-7.4-7.8	0-15-30
	32-60	7.0-12.0-17.0	---	7.4-7.9-8.4	25-28-40

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
SifG:					
Senachwine	0-6	9.0-15.5-22.0	---	5.6-6.6-7.3	0
	6-26	9.0-15.5-22.0	7.0-12.0-17.0	5.1-6.6-7.3	0
	26-32	11.0-18.0-25.0	---	6.6-7.4-7.8	0-15-30
	32-60	7.0-12.0-17.0	---	7.4-7.9-8.4	25-28-40
SldAH:					
Shoals	0-8	12.0-19.5-27.0	---	6.6-7.2-7.8	0-0-5
	8-33	8.0-16.0-24.0	---	6.6-7.2-8.4	0-0-10
	33-60	3.0-11.0-19.0	---	6.6-7.5-8.4	0-13-25
SldAW:					
Shoals	0-8	12.0-19.5-27.0	---	6.6-7.2-7.8	0-0-5
	8-33	8.0-16.0-24.0	---	6.6-7.2-8.4	0-0-10
	33-60	3.0-11.0-19.0	---	6.6-7.5-8.4	0-13-25
SnfA:					
Sleeth	0-9	10.0-12.5-15.0	---	5.6-6.6-7.3	0
	9-14	10.0-12.5-15.0	---	5.6-6.6-7.3	0
	14-38	10.0-12.5-15.0	8.0-9.0-11.0	5.1-6.2-7.3	0
	38-50	10.0-12.5-15.0	---	5.6-6.7-7.8	0-0-30
	50-60	0.0-2.5-5.0	---	7.4-7.9-8.4	20-40-55
SoaB:					
Spickert	0-7	8.0-13.0-20.0	5.0-8.0-12.0	3.5-5.9-7.3	0
	7-36	5.0-12.0-15.0	4.0-9.0-12.0	3.5-5.1-6.0	0
	36-57	9.0-13.0-18.0	8.0-12.0-16.0	3.5-4.7-5.0	0
	57-74	9.0-13.0-20.0	8.0-12.0-18.0	3.5-4.7-5.0	0
	74-80	---	---	---	---
SocAH:					
Sloan	0-15	19.0-24.0-29.0	---	6.1-7.0-7.8	0-0-10
	15-45	10.0-19.0-20.0	---	6.1-7.3-8.4	0-0-10
	45-60	4.0-13.0-18.0	---	6.6-7.5-8.4	0-15-30
SocAW:					
Sloan	0-15	19.0-24.0-29.0	---	6.1-7.0-7.8	0-0-10
	15-45	10.0-19.0-20.0	---	6.1-7.3-8.4	0-0-10
	45-60	4.0-13.0-18.0	---	6.6-7.5-8.4	0-15-30
SoeC2:					
Spickert	0-6	8.0-13.0-20.0	5.0-8.0-12.0	3.5-5.9-7.3	0
	6-36	5.0-12.0-15.0	4.0-9.0-12.0	3.5-5.1-6.0	0
	36-57	9.0-13.0-18.0	8.0-12.0-16.0	3.5-4.7-5.0	0
	57-74	9.0-13.0-20.0	8.0-12.0-18.0	3.5-4.7-5.0	0
	74-80	---	---	---	---
Wrays	0-6	8.0-14.0-20.0	3.0-5.0-8.0	4.5-5.9-7.3	0
	6-25	8.0-13.0-16.0	6.0-10.0-14.0	4.5-4.8-6.5	0
	25-34	14.0-17.0-21.0	12.0-15.0-18.0	3.5-4.4-5.0	0
	34-44	7.0-11.0-14.0	6.0-9.0-12.0	3.5-4.6-5.0	0
	44-60	---	---	---	---
SolC2:					
Spickert	0-6	8.0-13.0-20.0	5.0-8.0-12.0	3.5-5.9-7.3	0
	6-36	5.0-12.0-15.0	4.0-9.0-12.0	3.5-5.1-6.0	0
	36-57	9.0-13.0-18.0	8.0-12.0-16.0	3.5-4.7-5.0	0
	57-74	9.0-13.0-20.0	8.0-12.0-18.0	3.5-4.7-5.0	0
	74-80	---	---	---	---

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
SolC2:					
Wrays----------	0-6	8.0-14.0-20.0	3.0-5.0-8.0	4.5-5.9-7.3	0
	6-25	8.0-13.0-16.0	6.0-10.0-14.0	4.5-4.8-6.5	0
	25-34	14.0-17.0-21.0	12.0-15.0-18.0	3.5-4.4-5.0	0
	34-44	7.0-11.0-14.0	6.0-9.0-12.0	3.5-4.6-5.0	0
	44-60	---	---	---	---
SolC3:					
Spickert----------	0-3	8.0-13.0-20.0	5.0-8.0-12.0	3.5-5.9-7.3	0
	3-18	5.0-12.0-15.0	4.0-9.0-12.0	4.5-5.1-6.0	0
	18-58	9.0-13.0-18.0	8.0-12.0-16.0	4.5-4.7-5.0	0
	58-64	9.0-13.0-20.0	8.0-12.0-18.0	3.5-4.7-5.0	0
	64-80	---	---	---	---
Wrays----------	0-3	8.0-14.0-20.0	3.0-5.0-8.0	4.5-5.9-7.3	0
	3-26	8.0-13.0-16.0	6.0-10.0-14.0	4.5-4.8-6.5	0
	26-33	14.0-17.0-21.0	12.0-15.0-18.0	3.5-4.4-5.0	0
	33-41	7.0-11.0-14.0	6.0-9.0-12.0	3.5-4.6-5.0	0
	41-60	---	---	---	---
StaAV:					
Steff----------	0-10	8.0-12.0-20.0	5.0-9.0-15.0	4.5-5.9-7.3	0
	10-31	6.0-8.0-14.0	5.0-7.0-12.0	4.5-5.0-5.5	0
	31-60	6.0-10.0-16.0	5.0-8.0-14.0	4.5-5.0-5.5	0
StdAQ:					
Stendal----------	0-8	8.0-14.0-20.0	5.0-10.0-15.0	4.5-5.9-7.3	0
	8-40	6.0-12.0-17.0	5.0-10.0-15.0	4.5-5.0-5.5	0
	40-60	6.0-12.0-17.0	5.0-10.0-15.0	4.5-5.1-5.5	0
StdAV:					
Stendal----------	0-11	5.0-10.0-15.0	4.0-8.0-12.0	4.5-5.9-7.3	0
	11-41	6.0-12.0-17.0	5.0-10.0-15.0	4.5-5.0-5.5	0
	41-60	6.0-12.0-17.0	5.0-10.0-15.0	4.5-5.0-5.5	0
StmB:					
Stonehead----------	0-7	7.0-13.0-20.0	2.0-4.0-8.0	4.5-4.7-7.3	0
	7-30	7.0-12.0-15.0	6.0-10.0-13.0	3.5-4.4-5.5	0
	30-46	10.0-12.0-24.0	8.0-10.0-20.0	4.5-4.6-5.5	0
	46-65	10.0-12.0-16.0	8.0-10.0-14.0	4.5-4.6-5.5	0
	65-80	---	---	---	---
SucC2:					
Stonehead----------	0-5	7.0-13.0-20.0	2.0-4.0-8.0	4.5-5.9-7.3	0
	5-30	7.0-12.0-15.0	6.0-10.0-13.0	3.5-4.4-5.5	0
	30-46	10.0-12.0-24.0	8.0-10.0-20.0	4.5-4.6-5.5	0
	46-65	10.0-12.0-16.0	8.0-10.0-14.0	4.5-4.6-5.5	0
	65-80	---	---	---	---
Coolville----------	0-8	7.0-13.0-20.0	4.0-7.0-15.0	3.5-5.8-7.3	0
	8-21	8.0-14.0-17.0	7.0-12.0-15.0	3.5-4.4-5.5	0
	21-37	17.0-23.0-31.0	15.0-19.0-25.0	3.5-4.5-5.5	0
	37-44	13.0-15.0-19.0	11.0-13.0-16.0	4.5-5.0-5.5	0
	44-60	---	---	---	---
SujD5:					
Stonehead, gullied---	0-3	7.0-13.0-20.0	4.0-7.0-15.0	3.5-5.4-7.3	0
	3-13	8.0-14.0-17.0	7.0-12.0-15.0	3.5-4.4-5.5	0
	13-38	17.0-23.0-31.0	15.0-19.0-25.0	3.5-4.5-5.5	0
	38-44	13.0-15.0-19.0	11.0-13.0-16.0	4.5-5.0-5.5	0
	44-60	---	---	---	---

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
SulC2:					
Stonehead----------	0-5	7.0-13.0-20.0	2.0-4.0-8.0	4.5-5.9-7.3	0
	5-30	7.0-12.0-13.0	6.0-10.0-13.0	3.5-4.4-5.5	0
	30-46	10.0-12.0-24.0	8.0-10.0-20.0	4.5-4.6-5.5	0
	46-65	10.0-12.0-16.0	8.0-10.0-14.0	4.5-4.6-5.5	0
	65-80	---	---	4.5-5.0-6.5	---
Wellrock----------	0-4	9.0-14.0-20.0	6.0-8.0-10.0	4.5-5.9-7.3	0
	4-8	5.0-8.0-12.0	4.0-7.0-10.0	3.5-4.5-6.5	0
	8-28	7.0-13.0-16.0	6.0-11.0-14.0	3.5-4.4-5.0	0
	28-36	7.0-14.0-21.0	6.0-12.0-18.0	3.5-4.4-5.0	0
	36-52	7.0-14.0-21.0	6.0-12.0-18.0	3.5-4.7-5.0	0
	52-80	---	---	---	---
SuoAH:					
Stonelick----------	0-10	5.0-10.0-15.0	---	7.4-7.9-8.4	0-5-10
	10-60	5.0-7.5-10.0	---	7.4-7.9-8.4	10-20-30
Uaz:					
Udorthents, sandy.					
Uby:					
Udorthents, loamy.					
UemB:					
Urban land.					
Alvin----------	0-7	4.0-5.0-11.0	3.0-4.0-8.0	5.1-6.2-7.3	0
	7-10	6.0-8.0-10.0	5.0-6.0-8.0	5.1-6.2-7.3	0
	10-40	6.0-9.0-10.0	5.0-6.0-8.0	5.1-6.2-7.3	0
	40-70	4.0-6.0-10.0	3.0-5.0-8.0	5.1-6.2-7.3	0
	70-80	2.0-4.0-5.0	---	6.1-7.4-8.4	0-13-25
Princeton----------	0-8	7.0-12.0-18.0	3.0-9.0-14.0	5.1-6.2-7.3	0
	8-41	8.0-10.0-17.0	5.0-8.0-13.0	5.1-5.5-6.5	0
	41-60	3.0-9.0-12.0	5.0-7.0-9.0	5.1-5.9-7.3	0
	60-80	2.0-5.0-7.0	2.0-4.0-5.0	5.1-7.4-8.4	0-13-40
UemC:					
Urban land.					
Alvin----------	0-7	4.0-5.0-11.0	3.0-4.0-8.0	5.1-6.2-7.3	0
	7-10	6.0-8.0-10.0	5.0-6.0-8.0	5.1-6.2-7.3	0
	10-40	6.0-9.0-10.0	5.0-6.0-8.0	5.1-6.2-7.3	0
	40-70	4.0-6.0-10.0	3.0-5.0-8.0	5.1-6.2-7.3	0
	70-80	2.0-4.0-5.0	---	6.1-7.4-8.4	0-13-25
Princeton----------	0-8	7.0-12.0-18.0	3.0-9.0-14.0	5.1-6.2-7.3	0
	8-41	8.0-10.0-17.0	5.0-8.0-13.0	5.1-5.5-6.5	0
	41-60	3.0-9.0-12.0	5.0-7.0-9.0	5.1-5.9-7.3	0
	60-80	2.0-5.0-7.0	2.0-4.0-5.0	5.1-7.4-8.4	0-13-40
UenA:					
Urban land.					
Fox----------	0-8	8.0-13.0-18.0	6.0-10.0-14.0	5.1-6.2-7.3	0
	8-22	14.0-17.0-20.0	11.0-13.0-15.0	5.1-6.2-7.3	0
	22-33	12.0-16.0-20.0	---	5.6-6.7-7.8	0-0-30
	33-60	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
UenB:					
Urban land.					

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
UenB:					
Fox	0-7	8.0-13.0-18.0	6.0-10.0-14.0	5.1-6.2-7.3	0
	7-22	14.0-17.0-20.0	11.0-13.0-15.0	5.1-6.2-7.3	0
	22-33	12.0-16.0-20.0	---	5.6-6.7-7.8	0-0-30
	33-60	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
UepC:					
Urban land.					
Fox	0-6	10.0-14.0-20.0	---	5.6-6.7-7.3	0
	6-22	14.0-17.0-20.0	11.0-13.0-15.0	5.1-6.2-7.3	0
	22-33	12.0-16.0-20.0	---	5.6-6.7-7.8	0-0-30
	33-60	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
Casco	0-4	10.0-14.0-20.0	---	5.6-6.7-7.5	0
	4-12	14.0-17.0-20.0	---	5.6-6.2-7.5	0
	12-16	12.0-16.0-20.0	---	5.6-7.4-7.8	0-10-30
	16-60	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
UfcB:					
Urban land.					
Cincinnati	0-8	7.0-10.0-20.0	4.0-7.0-12.0	4.5-5.9-7.3	0
	8-24	6.0-11.0-14.0	5.0-9.0-12.0	4.5-4.9-5.5	0
	24-74	6.0-8.0-14.0	5.0-7.0-12.0	4.5-4.9-6.0	0
	74-80	10.0-14.0-21.0	8.0-12.0-18.0	4.5-5.5-6.5	0
Nabb	0-7	7.0-11.0-20.0	4.0-8.0-12.0	4.5-5.9-7.3	0
	7-13	7.0-10.0-13.0	4.0-7.0-12.0	4.5-5.3-7.3	0
	13-33	10.0-14.0-19.0	8.0-12.0-16.0	3.5-4.8-5.5	0
	33-71	7.0-11.0-14.0	6.0-9.0-12.0	3.5-4.6-5.5	0
	71-80	15.0-17.0-22.0	12.0-14.0-19.0	5.1-5.6-7.3	0
UfdA:					
Urban land.					
Cobbsfork	0-12	6.0-10.0-18.0	3.0-7.0-10.0	4.5-5.9-7.3	0
	12-18	5.0-7.0-10.0	4.0-6.0-8.0	4.5-5.0-5.5	0
	18-38	7.0-13.0-17.0	6.0-11.0-15.0	3.5-4.5-5.0	0
	38-50	10.0-12.0-14.0	8.0-10.0-12.0	3.5-4.5-5.0	0
	50-85	10.0-12.0-14.0	8.0-10.0-12.0	3.5-4.8-5.5	0
	85-90	15.0-19.0-24.0	13.0-16.0-20.0	5.1-6.2-7.3	0
Avonburg	0-11	7.0-12.0-20.0	4.0-6.0-10.0	4.5-5.9-7.3	0
	11-21	5.0-7.0-10.0	4.0-6.0-8.0	4.5-5.0-5.5	0
	21-37	14.0-15.0-19.0	12.0-13.0-16.0	3.5-4.3-5.0	0
	37-52	10.0-12.0-14.0	8.0-10.0-12.0	3.5-4.3-5.0	0
	52-83	10.0-12.0-14.0	8.0-10.0-12.0	3.5-4.5-5.5	0
	83-90	16.0-20.0-24.0	13.0-17.0-20.0	5.1-5.9-7.3	0
UfnA:					
Urban land.					
Crosby	0-8	6.0-11.0-20.0	5.0-10.0-15.0	5.1-6.2-7.3	0
	8-11	6.0-10.0-18.0	5.0-9.0-14.0	5.1-5.9-7.3	0
	11-14	7.0-14.0-30.0	5.0-9.0-14.0	5.1-5.5-7.3	0
	14-28	15.0-21.0-29.0	11.0-17.0-22.0	5.1-6.6-7.3	0
	28-36	5.0-12.0-17.0	---	7.4-7.5-8.4	5-11-40
	36-80	4.0-5.0-16.0	---	7.4-8.1-8.4	20-35-50
UfoA:					
Urban land.					

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
UfoA:					
Cyclone	0-14	15.0-22.5-30.0	---	5.6-6.3-7.3	0
	14-20	11.0-18.0-25.0	---	6.1-6.9-7.3	0
	20-49	11.0-18.0-25.0	---	6.1-7.3-7.3	0
	49-60	11.0-18.0-25.0	---	6.1-7.3-7.3	0
	60-80	6.0-11.5-17.0	---	7.4-8.1-8.4	15-25-40
UfxA:					
Urban land.					
Fincastle	0-10	10.0-15.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0
	10-13	10.0-15.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0
	13-27	15.0-20.0-25.0	11.0-15.0-19.0	5.1-5.8-6.5	0
	27-50	15.0-20.0-25.0	11.0-15.0-19.0	5.1-6.9-7.8	0-3-5
	50-59	5.0-10.0-15.0	---	6.6-7.4-8.4	0-12-30
	59-80	5.0-10.0-15.0	---	7.4-8.0-8.4	15-24-40
UfyB:					
Urban land.					
Fincastle	0-10	10.0-15.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0
	10-13	10.0-15.0-20.0	8.0-11.0-15.0	5.1-5.9-7.3	0
	13-27	15.0-20.0-25.0	11.0-15.0-19.0	5.1-5.8-6.5	0
	27-50	15.0-20.0-25.0	11.0-15.0-19.0	5.1-6.9-7.8	0-3-5
	50-59	5.0-10.0-15.0	---	6.6-7.4-8.4	0-12-30
	59-80	5.0-10.0-15.0	---	7.4-8.0-8.4	15-24-40
Russell	0-8	6.0-11.0-18.0	5.0-8.0-14.0	5.1-6.2-7.3	0
	8-13	10.0-18.0-19.0	8.0-11.0-14.0	4.5-5.3-6.0	0
	13-28	17.0-20.0-25.0	13.0-17.0-19.0	4.5-4.9-6.0	0
	28-52	10.0-19.0-22.0	8.0-12.0-17.0	5.1-6.2-7.3	0
	52-58	6.0-11.5-17.0	---	6.6-7.9-8.4	0-10-20
	58-80	5.0-8.5-12.0	---	7.4-7.9-8.4	15-28-40
UhyA:					
Urban land.					
Martinsville, sandy substratum	0-11	10.0-12.5-15.0	8.0-9.0-11.0	5.1-6.2-7.3	0
	11-14	10.0-12.5-15.0	8.0-9.0-11.0	5.1-6.2-7.3	0
	14-39	10.0-12.5-15.0	8.0-9.0-11.0	5.1-5.8-7.3	0
	39-55	10.0-12.5-15.0	8.0-9.0-11.0	5.1-5.8-7.8	0
	55-72	5.0-10.0-15.0	---	7.4-7.9-8.4	10-28-45
	72-80	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
UkbC:					
Urban land.					
Miami	0-7	6.0-10.5-17.0	---	5.6-6.5-7.3	0
	7-13	16.0-20.0-25.0	12.0-15.0-19.0	5.1-5.9-7.3	0
	13-31	9.0-14.5-20.0	7.0-11.0-15.0	5.1-5.5-7.3	0
	31-36	4.0-7.5-11.0	---	6.6-7.4-7.8	0-10-20
	36-80	2.0-5.5-9.0	---	7.4-7.9-8.4	20-33-45
UkpA:					
Urban land.					
Ockley	0-10	6.0-12.0-18.0	---	5.6-6.5-7.3	0
	10-24	9.0-16.0-23.0	7.0-12.0-17.0	5.1-6.2-6.5	0
	24-38	9.0-16.0-23.0	7.0-12.0-17.0	5.1-6.2-7.3	0
	38-44	9.0-17.0-26.0	7.0-13.0-20.0	5.1-6.7-7.8	0
	44-80	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
UkqA:					
Urban land.					
Nineveh----------	0-8	10.0-16.5-23.0	---	6.6-7.0-7.3	0
	8-13	10.0-16.5-23.0	---	6.6-7.0-7.3	0
	13-24	11.0-18.0-25.0	---	6.1-7.2-7.3	0-0-20
	24-33	11.0-18.0-25.0	---	6.1-7.2-7.3	0-0-20
	33-36	11.0-18.0-25.0	---	6.6-7.4-7.8	0-10-20
	36-60	0.0-1.0-2.0	---	7.4-7.9-8.4	10-25-40
UkqB:					
Urban land.					
Nineveh----------	0-8	10.0-16.5-23.0	---	6.6-7.0-7.3	0
	8-13	10.0-16.5-23.0	---	6.6-7.0-7.3	0
	13-24	11.0-18.0-25.0	---	6.1-7.2-7.3	0-0-20
	24-33	11.0-18.0-25.0	---	6.1-7.2-7.3	0-0-20
	33-36	11.0-18.0-25.0	---	6.6-7.4-7.8	0-10-20
	36-60	0.0-1.0-2.0	---	7.4-7.9-8.4	10-25-40
UmqA:					
Urban land.					
Sleeth----------	0-9	10.0-12.5-15.0	---	5.6-6.5-7.3	0
	9-14	10.0-12.5-15.0	---	5.6-6.5-7.3	0
	14-38	10.0-12.5-15.0	8.0-9.0-11.0	5.1-6.2-7.3	0
	38-50	10.0-12.5-15.0	---	5.6-6.7-7.8	0-0-30
	50-60	0.0-2.5-5.0	---	7.4-7.9-8.4	20-40-55
UnnA:					
Urban land.					
Westland----------	0-10	15.0-20.0-25.0	---	6.1-6.7-7.3	0
	10-42	10.0-18.0-20.0	---	6.1-6.7-7.3	0
	42-49	5.0-10.0-15.0	---	6.6-7.2-7.8	0-10-20
	49-60	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
Usl:					
Udorthents, rubbish.					
W:					
Water.					
WaaAV:					
Wakeland----------	0-7	4.0-9.0-12.0	---	5.6-6.4-7.3	0
	7-29	4.0-9.0-12.0	---	5.6-6.4-7.3	0
	29-60	4.0-9.0-12.0	---	5.6-6.4-7.3	0
WaaAW:					
Wakeland----------	0-7	4.0-9.0-12.0	---	5.6-6.4-7.3	0
	7-29	4.0-9.0-12.0	---	5.6-6.4-7.3	0
	29-60	4.0-9.0-12.0	---	5.6-6.4-7.3	0
WacAW:					
Wakeland----------	0-7	4.0-9.0-12.0	---	5.6-6.4-7.3	0
	7-29	4.0-9.0-12.0	---	5.6-6.4-7.3	0
	29-60	4.0-9.0-12.0	---	5.6-6.4-7.3	0
Birds----------	0-8	9.0-14.0-20.0	---	5.6-6.5-7.3	0
	8-43	9.0-13.0-18.0	---	5.6-6.5-7.3	0
	43-60	5.0-10.0-15.0	---	5.6-6.6-7.8	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
WbiAW:					
Wilbur----------	0-7	4.0-10.0-16.0	---	5.6-6.4-7.3	0
	7-32	4.0-10.0-15.0	---	5.6-6.4-7.3	0
	32-60	4.0-10.0-16.0	---	5.6-6.4-7.3	0
Wakeland----------	0-7	4.0-9.0-12.0	---	5.6-6.4-7.3	0
	7-29	4.0-9.0-12.0	---	5.6-6.4-7.3	0
	29-60	4.0-9.0-12.0	---	5.6-6.4-7.3	0
WdlC2:					
Wawaka----------	0-4	4.0-11.0-17.0	3.0-8.0-14.0	5.1-6.2-7.3	0
	4-30	9.0-15.0-20.0	7.0-11.0-15.0	5.1-5.2-6.5	0-0-10
	30-45	4.0-7.0-9.0	---	6.6-7.4-8.4	5-6-25
	45-80	2.0-6.0-10.0	1.0-5.0-8.0	5.1-6.0-6.5	0
WdrB2:					
Wawaka----------	0-7	4.0-11.0-17.0	3.0-8.0-14.0	5.1-6.2-7.3	0
	7-23	11.0-16.0-20.0	9.0-12.0-16.0	5.1-5.8-6.5	0
	23-57	9.0-15.0-20.0	7.0-11.0-15.0	5.1-5.5-7.3	0-0-10
	57-66	4.0-7.0-9.0	---	7.0-7.6-8.4	5-6-25
	66-80	2.0-6.0-10.0	1.0-5.0-8.0	5.1-5.8-6.5	0
WokAW:					
Wilbur----------	0-7	4.0-10.0-16.0	---	5.6-6.4-7.3	0
	7-32	4.0-10.0-15.0	---	5.6-6.4-7.3	0
	32-60	4.0-10.0-16.0	---	5.6-6.4-7.3	0
WolAV:					
Wilhite----------	0-9	18.0-27.0-36.0	---	5.6-6.2-7.3	0
	9-38	14.0-21.0-30.0	12.0-18.0-24.0	5.1-6.0-7.3	0
	38-60	14.0-20.0-26.0	---	5.6-6.6-7.3	0
WprAV:					
Wirt----------	0-8	6.0-11.0-15.0	---	5.6-6.5-7.3	0
	8-38	5.0-10.0-13.0	---	5.6-6.5-7.3	0
	38-60	3.0-8.0-12.0	---	5.6-6.5-7.3	0
WprAW:					
Wirt----------	0-8	6.0-11.0-15.0	---	5.6-6.5-7.3	0
	8-38	5.0-10.0-13.0	---	5.6-6.5-7.3	0
	38-60	3.0-8.0-12.0	---	5.6-6.5-7.3	0
WqlA:					
Westland----------	0-10	15.0-20.0-25.0	---	6.1-6.7-7.3	0
	10-42	10.0-18.0-20.0	---	6.1-6.7-7.3	0
	42-49	5.0-10.0-15.0	---	6.6-7.2-7.8	0-10-20
	49-60	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
WqlAQ:					
Westland----------	0-10	15.0-20.0-25.0	---	6.1-6.7-7.3	0
	10-42	10.0-18.0-20.0	---	6.1-6.7-7.3	0
	42-49	5.0-10.0-15.0	---	6.6-7.2-7.8	0-10-20
	49-60	0.0-1.0-2.0	---	7.4-7.9-8.4	25-40-55
WsuA:					
Whitaker----------	0-9	5.0-11.0-17.0	---	5.6-6.7-7.3	0
	9-17	5.0-11.0-17.0	---	5.6-6.5-6.5	0
	17-39	8.0-16.0-22.0	6.0-14.0-17.0	5.1-5.9-6.5	0
	39-48	8.0-10.0-22.0	---	5.6-6.5-7.8	0-0-20
	48-60	2.0-8.0-13.0	---	6.1-7.9-8.4	0-23-45

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbonate equivalent
	In	meq/100 g	meq/100 g	pH	Pct
WsyAQ:					
Whitaker----------	0-10	5.0-10.0-15.0	---	5.6-6.7-7.3	0
	10-25	5.0-10.0-15.0	---	5.6-6.5-7.3	0
	25-49	10.0-11.0-20.0	8.0-8.0-15.0	5.1-5.8-6.5	0
	49-56	10.0-11.0-20.0	8.0-8.0-15.0	5.1-6.5-6.5	0
	56-80	0.0-2.0-5.0	---	6.1-7.9-8.4	0-29-40
WufB2:					
Williamstown---------	0-9	10.0-11.5-20.0	8.0-9.0-15.0	5.1-6.2-7.3	0
	9-33	15.0-17.0-25.0	11.0-13.0-19.0	5.1-5.9-7.3	0
	33-37	10.0-15.0-20.0	---	6.6-7.5-8.4	0-5-35
	37-80	5.0-10.0-15.0	---	7.4-7.9-8.4	20-32-45
XabB2:					
Xenia----------	0-8	6.0-16.0-18.0	---	5.6-6.5-7.3	0
	8-30	12.0-23.0-26.0	9.0-17.0-20.0	5.1-6.2-7.3	0
	30-50	11.0-22.0-24.0	---	5.6-6.5-7.3	0
	50-58	6.0-16.0-17.0	---	6.6-7.9-8.4	0-10-20
	58-80	5.0-8.5-12.0	---	7.4-7.9-8.4	15-28-40
XfuB2:					
Miami----------	0-8	6.0-10.5-17.0	---	5.6-5.9-7.3	0
	8-13	16.0-20.0-25.0	12.0-15.0-19.0	5.1-5.2-6.5	0
	13-31	9.0-14.5-20.0	7.0-11.0-15.0	5.1-5.6-7.3	0
	31-36	4.0-7.5-11.0	---	6.6-7.9-8.4	0-12-20
	36-80	2.0-5.5-9.0	---	7.4-8.2-8.4	20-30-45
Rainsville----------	0-8	7.0-13.0-21.0	---	5.6-6.5-7.3	0
	8-13	11.0-15.5-20.0	---	5.6-6.1-7.3	0
	13-30	13.0-14.0-22.0	9.0-10.0-17.0	4.5-5.0-6.0	0
	30-42	13.0-14.0-22.0	9.0-10.0-17.0	5.1-5.5-6.0	0
	42-48	8.0-12.5-17.0	---	6.6-7.4-7.8	0-12-25
	48-60	6.0-10.0-14.0	---	7.4-8.0-8.4	15-30-40
XrbC2:					
Miami----------	0-8	7.0-12.0-17.0	---	5.6-6.5-7.3	0
	8-31	9.0-14.5-20.0	7.0-11.0-15.0	5.1-5.6-7.3	0
	31-36	4.0-7.5-11.0	---	6.6-7.4-7.8	0-10-20
	36-80	2.0-5.5-9.0	---	7.4-7.9-8.4	20-33-45
Rainsville----------	0-6	7.0-12.0-17.0	---	5.6-6.5-7.3	0
	6-30	13.0-14.0-22.0	9.0-10.0-20.0	4.5-5.3-6.0	0
	30-42	13.0-14.0-22.0	9.0-10.0-20.0	4.5-5.3-6.0	0
	42-48	8.0-12.5-17.0	---	6.6-7.2-7.8	0-0-25
	48-60	6.0-10.0-14.0	---	7.4-7.9-8.4	15-28-40
XrkD2:					
Miami----------	0-7	7.0-12.0-17.0	---	5.6-6.5-7.3	0
	7-31	9.0-14.5-20.0	7.0-11.0-15.0	5.1-5.5-7.3	0
	31-36	4.0-7.5-11.0	---	6.6-7.4-7.8	0-10-20
	36-80	2.0-5.5-9.0	---	7.4-7.9-8.4	20-33-45
Kendallville---------	0-7	7.0-12.0-17.0	---	5.6-6.5-7.3	0
	7-34	10.0-18.0-28.0	---	5.6-6.7-7.8	0-13-25
	34-60	6.0-10.0-14.0	---	7.4-7.9-8.4	15-28-40
ZboA:					
Zipp----------	0-10	18.0-25.5-33.0	---	5.6-6.6-7.3	0
	10-45	17.0-26.0-35.0	---	5.6-6.6-7.3	0
	45-60	16.0-24.0-32.0	---	6.6-7.2-8.4	0-0-20

Table 19.--Water Features

(See text for definitions of terms used in this table. Estimates of the frequency of flooding from stream gauge data where available. Null values for water table indicate depth is >6.0 feet or greater than the bottom depth of a bedrock layer. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft.	Ft.	Ft.				
AddA:									
Avonburg	C	Jan-Apr	0.5-2.0	3.3-5.0	---	---	None	---	None
		May	1.0-3.5	5.0-6.7	---	---	None	---	None
		Jun	2.0-3.5	5.0-6.7	---	---	None	---	None
		Jul-Aug	3.5-6.0	>6.0	---	---	None	---	None
		Sep-Oct	---	---	---	---	None	---	None
		Nov	1.0-3.0	3.3-5.0	---	---	None	---	None
		Dec	0.5-2.0	3.3-5.0	---	---	None	---	None
AddB2:									
Avonburg	C	Jan-Apr	0.5-2.0	3.3-5.0	---	---	None	---	None
		May	1.0-3.5	5.0-6.7	---	---	None	---	None
		Jun	2.0-3.5	5.0-6.7	---	---	None	---	None
		Jul-Aug	3.5-6.0	>6.0	---	---	None	---	None
		Sep-Oct	---	---	---	---	None	---	None
		Nov	1.0-3.0	3.3-5.0	---	---	None	---	None
		Dec	0.5-2.0	3.3-5.0	---	---	None	---	None
AfsB:									
Alvin	B	Jan-Dec	---	---	---	---	None	---	None
Princeton	B	Jan-Dec	---	---	---	---	None	---	None
AfsC2:									
Alvin	B	Jan-Dec	---	---	---	---	None	---	None
Princeton	B	Jan-Dec	---	---	---	---	None	---	None
AmkA:									
Ayrshire	C	Jan-Mar	0.5-2.0	>6.0	---	---	None	---	None
		Apr	0.5-3.0	>6.0	---	---	None	---	None
		May-Jun	1.5-3.5	>6.0	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	1.5-3.5	>6.0	---	---	None	---	None
		Dec	0.5-3.0	>6.0	---	---	None	---	None
BbhA:									
Bartle	C	Jan-Apr	0.5-2.0	2.0-3.5	---	---	None	---	None
		May	1.0-3.5	5.0-6.7	---	---	None	---	None
		Jun	2.0-3.5	5.0-6.7	---	---	None	---	None
		Jul-Aug	3.5-6.0	>6.0	---	---	None	---	None
		Sep-Oct	---	---	---	---	None	---	None
		Nov	1.0-3.0	2.5-3.5	---	---	None	---	None
		Dec	0.5-2.0	2.0-3.5	---	---	None	---	None
BbiB:									
Bartle	C	Jan-Apr	0.5-2.0	2.0-3.5	---	---	None	---	None
		May	1.0-3.5	5.0-6.7	---	---	None	---	None
		Jun	2.0-3.5	5.0-6.7	---	---	None	---	None
		Jul-Aug	3.5-6.0	>6.0	---	---	None	---	None
		Sep-Oct	---	---	---	---	None	---	None
		Nov	1.0-3.0	2.5-3.5	---	---	None	---	None
		Dec	0.5-2.0	2.0-3.5	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
BbiB:									
Pekin----------	C	Jan-Apr	1.5-2.0	2.0-3.0	---	---	None	---	None
		May	2.0-3.5	5.0-6.7	---	---	None	---	None
		Jun	3.0-4.0	5.0-6.7	---	---	None	---	None
		Jul	4.0-6.0	>6.0	---	---	None	---	None
		Aug-Oct	---	---	---	---	None	---	None
		Nov	2.0-2.5	2.5-3.0	---	---	None	---	None
		Dec	1.5-2.0	2.0-3.0	---	---	None	---	None
BcrAW:									
Beanblossom----------	B	Jan-Jun	3.3-5.0	4.0-5.0	---	---	None	Very brief	Occasional
		Jul-Aug	4.0-5.0	4.5-5.0	---	---	None	Very brief	Rare
		Sep-Oct	---	---	---	---	None	Very brief	Rare
		Nov-Dec	3.3-5.0	4.0-5.0	---	---	None	Very brief	Rare
BdhAH:									
Bellcreek----------	C	Jan-Mar	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	Brief	Frequent
		Apr	0.0-1.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
		May	0.0-1.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Occasional
		Jun	0.5-2.5	>6.0	0.0-0.5	Brief	Occasional	Brief	Occasional
		Jul	2.5-6.7	>6.0	0.0-0.5	Brief	Occasional	Brief	Occasional
		Aug-Sep	3.5-6.7	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		Oct	2.5-6.7	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		Nov	0.5-2.5	>6.0	0.0-0.5	Brief	Occasional	Brief	Occasional
		Dec	0.0-2.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Occasional
BfbAH:									
Bellcreek----------	C	Jan-Mar	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	Brief	Frequent
		Apr	0.0-1.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
		May	0.0-1.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Occasional
		Jun	0.5-2.5	>6.0	0.0-0.5	Brief	Occasional	Brief	Occasional
		Jul	2.5-6.7	>6.0	0.0-0.5	Brief	Occasional	Brief	Occasional
		Aug-Sep	3.5-6.7	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		Oct	2.5-6.7	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		Nov	0.5-2.5	>6.0	0.0-0.5	Brief	Occasional	Brief	Occasional
		Dec	0.0-2.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Occasional
BgeAW:									
Birds----------	C	Jan-Apr	0.0-1.0	>6.0	0.0-0.5	Very brief	Frequent	Very brief	Occasional
		May	1.5-3.5	>6.0	0.0-0.5	Very brief	Frequent	Very brief	Occasional
		Jun	2.0-4.0	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Occasional
		Jul	3.0-5.0	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Rare
		Aug	3.5-6.0	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Rare
		Sep-Oct	5.0-6.0	>6.0	0.0-0.5	Very brief	Rare	Very brief	Rare
		Nov	0.5-1.5	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Rare
		Dec	0.0-1.0	>6.0	0.0-0.5	Very brief	Frequent	Very brief	Rare
BlgC2:									
Blocher----------	C	Jan-Apr	2.0-3.0	2.5-3.5	---	---	None	---	None
		May-Nov	---	---	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.5	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
BlgC2:									
Cincinnati----------	C	Jan-Apr	1.7-3.0	2.5-3.5	---	---	None	---	None
		May	2.5-3.0	3.0-4.0	---	---	None	---	None
		Jun-Oct	---	---	---	---	None	---	None
		Nov	2.5-3.0	3.0-3.5	---	---	None	---	None
		Dec	1.7-3.0	2.5-3.5	---	---	None	---	None
BlgC3:									
Blocher----------	C	Jan-Apr	2.0-3.0	2.5-3.5	---	---	None	---	None
		May-Nov	---	---	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.5	---	---	None	---	None
Cincinnati----------	C	Jan-Apr	1.0-1.7	2.0-2.5	---	---	None	---	None
		May	2.0-2.5	2.5-3.5	---	---	None	---	None
		Jun-Oct	---	---	---	---	None	---	None
		Nov	1.5-2.0	2.5-3.0	---	---	None	---	None
		Dec	1.0-1.7	2.0-2.5	---	---	None	---	None
BlhD2:									
Blocher----------	C	Jan-Apr	2.0-3.0	2.5-3.5	---	---	None	---	None
		May-Nov	---	---	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.5	---	---	None	---	None
Bonnell----------	C	Jan-Dec	---	---	---	---	None	---	None
BluC:									
Bloomfield----------	A	Jan-Dec	---	---	---	---	None	---	None
Alvin----------	B	Jan-Dec	---	---	---	---	None	---	None
BnuD3:									
Bonnell----------	C	Jan-Dec	---	---	---	---	None	---	None
Hickory----------	B	Jan-Dec	---	---	---	---	None	---	None
Blocher----------	C	Jan-Apr	2.0-3.0	2.5-3.5	---	---	None	---	None
		May-Nov	---	---	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.5	---	---	None	---	None
BobE5:									
Bonnell, gullied------	C	Jan-Dec	---	---	---	---	None	---	None
Hickory, gullied------	B	Jan-Dec	---	---	---	---	None	---	None
BodAV:									
Bonnie----------	C	Jan-Apr	0.0-1.0	>6.0	0.0-0.5	Very brief	Frequent	Very brief	Frequent
		May	1.5-3.5	>6.0	0.0-0.5	Very brief	Frequent	Very brief	Occasional
		Jun	2.0-4.0	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Occasional
		Jul	3.0-5.0	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Rare
		Aug	3.5-6.0	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Rare
		Sep-Oct	5.0-6.0	>6.0	0.0-0.5	Very brief	Rare	Very brief	Rare
		Nov	0.5-1.5	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Rare
		Dec	0.0-1.0	>6.0	0.0-0.5	Very brief	Frequent	Very brief	Occasional

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
CldB2:									
Cincinnati----------	C	Jan-Apr	1.7-3.0	2.5-3.5	---	---	None	---	None
		May	2.5-3.0	3.0-4.0	---	---	None	---	None
		Jun-Oct	---	---	---	---	None	---	None
		Nov	2.5-3.0	3.0-3.5	---	---	None	---	None
		Dec	1.7-3.0	2.5-3.5	---	---	None	---	None
Blocher----------	C	Jan-Apr	2.0-3.0	2.5-3.5	---	---	None	---	None
		May-Nov	---	---	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.5	---	---	None	---	None
ClfA:									
Cobbsfork----------	C	Jan-Apr	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent	---	None
		May	0.0-1.5	5.0-6.7	0.0-0.5	Very brief	Frequent	---	None
		Jun	1.0-3.5	5.0-6.7	0.0-0.5	Very brief	Occasional	---	None
		Jul-Aug	3.5-6.0	>6.0	0.0-0.5	Very brief	Occasional	---	None
		Sep-Oct	---	---	0.0-0.5	Very brief	Rare	---	None
		Nov	0.0-1.5	3.5-5.0	0.0-0.5	Very brief	Occasional	---	None
		Dec	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent	---	None
CmbAW:									
Cohoctah----------	B	Jan-Apr	0.0-0.5	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Occasional
		May	0.0-1.0	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Occasional
		Jun	0.0-1.5	>6.0	0.0-0.5	Very brief	Rare	Very brief	Occasional
		Jul	1.5-3.3	>6.0	0.0-0.5	Very brief	Rare	Very brief	Rare
		Aug-Sep	3.3-6.0	>6.0	0.0-0.5	Very brief	Rare	Very brief	Rare
		Oct	1.5-5.0	>6.0	0.0-0.5	Very brief	Rare	Very brief	Rare
		Nov	1.0-1.5	>6.0	0.0-0.5	Very brief	Rare	Very brief	Rare
		Dec	0.0-1.0	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Rare
CmzA:									
Cliftycreek----------	C	Jan-Dec	---	---	---	---	None	---	None
CmzB2:									
Cliftycreek----------	C	Jan-Dec	---	---	---	---	None	---	None
CmzC2:									
Cliftycreek----------	C	Jan-Dec	---	---	---	---	None	---	None
ColD2:									
Coolville----------	C	Jan-Apr	1.0-2.0	3.3-5.0	---	---	None	---	None
		May	2.0-3.3	3.3-5.0	---	---	None	---	None
		Jun	2.5-3.3	3.3-5.0	---	---	None	---	None
		Jul-Oct	---	---	---	---	None	---	None
		Nov	2.5-3.3	3.3-5.0	---	---	None	---	None
		Dec	1.0-2.0	3.3-5.0	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
ColD2:									
Rarden----------	C	Jan-Apr	1.0-2.0	1.7-3.3	---	---	None	---	None
		May-Nov	---	---	---	---	None	---	None
		Dec	1.0-2.0	1.7-3.3	---	---	None	---	None
Stonehead----------	C	Jan-Apr	2.0-3.0	3.7-6.3	---	---	None	---	None
		May-Jun	2.5-4.0	3.7-6.3	---	---	None	---	None
		Jul-Oct	---	---	---	---	None	---	None
		Nov	2.5-4.0	3.7-6.3	---	---	None	---	None
		Dec	2.0-3.0	3.7-6.3	---	---	None	---	None
ConC3:									
Coolville----------	C	Jan-Apr	1.0-2.0	3.3-5.0	---	---	None	---	None
		May	2.0-3.3	3.3-5.0	---	---	None	---	None
		Jun	2.5-3.3	3.3-5.0	---	---	None	---	None
		Jul-Oct	---	---	---	---	None	---	None
		Nov	2.5-3.3	3.3-5.0	---	---	None	---	None
		Dec	1.0-2.0	3.3-5.0	---	---	None	---	None
Rarden----------	C	Jan-Apr	1.0-2.0	1.7-3.3	---	---	None	---	None
		May-Nov	---	---	---	---	None	---	None
		Dec	1.0-2.0	1.7-3.3	---	---	None	---	None
CudA:									
Crosby----------	C	Jan-Mar	0.5-2.0	2.0-3.3	---	---	None	---	None
		Apr	0.5-3.0	2.0-3.3	---	---	None	---	None
		May-Jun	1.5-3.3	2.0-3.3	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	1.5-3.3	2.0-3.3	---	---	None	---	None
		Dec	0.5-3.0	2.0-3.3	---	---	None	---	None
CulB:									
Crosby----------	C	Jan-Mar	0.5-2.0	2.0-3.3	---	---	None	---	None
		Apr	0.5-3.0	2.0-3.3	---	---	None	---	None
		May-Jun	1.5-3.3	2.0-3.3	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	1.5-3.3	2.0-3.3	---	---	None	---	None
		Dec	0.5-3.0	2.0-3.3	---	---	None	---	None
Williamstown----------	C	Jan-Mar	1.0-2.5	2.0-3.3	---	---	None	---	None
		Apr	1.5-2.5	2.0-3.3	---	---	None	---	None
		May	1.5-3.0	2.0-3.3	---	---	None	---	None
		Jun	1.5-3.3	2.0-3.3	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct	1.5-3.3	2.0-3.3	---	---	None	---	None
		Nov	1.5-3.0	2.0-3.3	---	---	None	---	None
		Dec	1.0-2.5	2.0-3.3	---	---	None	---	None
CxdA:									
Cyclone----------	B	Jan-Mar	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
		Apr	0.5-1.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		May	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Jun	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Jul-Sep	---	---	0.0-0.5	Brief	Occasional	---	None
		Oct	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Nov	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Dec	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
DbqE:									
Deam, very deep-------	C	Jan-Dec	---	---	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
EcyAH:									
Eel	B	Jan-Feb	1.5-2.0	>6.0	---	---	None	Brief	Frequent
		Mar	1.5-2.5	>6.0	---	---	None	Brief	Frequent
		Apr	2.0-3.5	>6.0	---	---	None	Brief	Frequent
		May	3.5-5.5	>6.0	---	---	None	Brief	Frequent
		Jun	---	---	---	---	None	Brief	Occasional
		Jul-Sep	---	---	---	---	None	Brief	Rare
		Oct	3.5-5.5	>6.0	---	---	None	Brief	Rare
		Nov	2.0-3.5	>6.0	---	---	None	Brief	Occasional
		Dec	1.5-2.5	>6.0	---	---	None	Brief	Occasional
EcyAW:									
Eel	B	Jan-Feb	1.5-2.0	>6.0	---	---	None	Very brief	Occasional
		Mar	1.5-2.5	>6.0	---	---	None	Very brief	Occasional
		Apr	2.0-3.5	>6.0	---	---	None	Very brief	Occasional
		May	3.5-5.5	>6.0	---	---	None	Very brief	Occasional
		Jun	---	---	---	---	None	Very brief	Occasional
		Jul-Sep	---	---	---	---	None	Very brief	Rare
		Oct	3.5-5.5	>6.0	---	---	None	Very brief	Rare
		Nov	2.0-3.5	>6.0	---	---	None	Very brief	Rare
		Dec	1.5-2.5	>6.0	---	---	None	Very brief	Rare
EdeAW:									
Eel	B	Jan-Feb	1.5-2.0	>6.0	---	---	None	Very brief	Occasional
		Mar	1.5-2.5	>6.0	---	---	None	Very brief	Occasional
		Apr	2.0-3.5	>6.0	---	---	None	Very brief	Occasional
		May	3.5-5.5	>6.0	---	---	None	Very brief	Occasional
		Jun	---	---	---	---	None	Very brief	Occasional
		Jul-Sep	---	---	---	---	None	Very brief	Rare
		Oct	3.5-5.5	>6.0	---	---	None	Very brief	Rare
		Nov	2.0-3.5	>6.0	---	---	None	Very brief	Rare
		Dec	1.5-2.5	>6.0	---	---	None	Very brief	Rare
EepAQ:									
Elkinsville	B	Jan-Jun	---	---	---	---	None	Very brief	Rare
		Jul-Dec	---	---	---	---	None	Very brief	Very rare
FdbA:									
Fincastle	C	Jan-Mar	0.5-2.0	3.3-5.0	---	---	None	---	None
		Apr	0.5-3.0	3.3-5.0	---	---	None	---	None
		May-Jun	1.5-3.3	3.3-5.0	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	1.5-3.3	3.3-5.0	---	---	None	---	None
		Dec	0.5-3.0	3.3-5.0	---	---	None	---	None
FdqB:									
Fincastle	C	Jan-Mar	0.5-2.0	3.3-5.0	---	---	None	---	None
		Apr	0.5-3.0	3.3-5.0	---	---	None	---	None
		May-Jun	1.5-3.3	4.5-5.0	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	1.5-3.3	4.5-5.0	---	---	None	---	None
		Dec	0.5-3.0	3.3-5.0	---	---	None	---	None
Xenia	B	Jan-Apr	1.5-2.5	3.3-5.0	---	---	None	---	None
		May	2.0-3.5	3.3-5.0	---	---	None	---	None
		Jun	2.0-3.3	3.3-5.0	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	2.0-3.3	3.3-5.0	---	---	None	---	None
		Dec	1.5-2.5	3.3-5.0	---	---	None	---	None
FexA:									
Fox	B	Jan-Dec	---	---	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
FexAQ:									
Fox	B	Jan-Jul	---	---	---	---	None	Brief	Rare
		Aug-Oct	---	---	---	---	None	Brief	Very rare
		Nov-Dec	---	---	---	---	None	Brief	Rare
FexB2:									
Fox	B	Jan-Dec	---	---	---	---	None	---	None
FgqC3:									
Fox	B	Jan-Dec	---	---	---	---	None	---	None
Casco	B	Jan-Dec	---	---	---	---	None	---	None
GccAH:									
Genesee	B	Jan-Jun	---	---	---	---	None	Brief	Frequent
		Jul-Aug	---	---	---	---	None	Brief	Occasional
		Sep-Oct	---	---	---	---	None	Brief	Rare
		Nov-Dec	---	---	---	---	None	Brief	Occasional
GccAW:									
Genesee	B	Jan-Jun	---	---	---	---	None	Very brief	Occasional
		Jul-Dec	---	---	---	---	None	Very brief	Rare
GcpAW:									
Genesee	B	Jan-Jun	---	---	---	---	None	Very brief	Occasional
		Jul-Dec	---	---	---	---	None	Very brief	Rare
GgbG:									
Gilwood	B	Jan-Dec	---	---	---	---	None	---	None
Brownstown	B	Jan-Dec	---	---	---	---	None	---	None
GgfD2:									
Gilwood	B	Jan-Dec	---	---	---	---	None	---	None
Wrays	B	Jan-Dec	---	---	---	---	None	---	None
HcgAW:									
Haymond	B	Jan-Jun	---	---	---	---	None	Very brief	Occasional
		Jul-Dec	---	---	---	---	None	Very brief	Rare
HctAW:									
Haymond	B	Jan-Jun	---	---	---	---	None	Very brief	Occasional
		Jul-Dec	---	---	---	---	None	Very brief	Rare
Wirt	B	Jan-Jun	---	---	---	---	None	Very brief	Occasional
		Jul-Dec	---	---	---	---	None	Very brief	Rare
HeoF:									
Hickory	B	Jan-Dec	---	---	---	---	None	---	None
HleAW:									
Holton	C	Jan-Apr	0.5-2.0	>6.0	---	---	None	Very brief	Occasional
		May	2.0-4.0	>6.0	---	---	None	Very brief	Occasional
		Jun	2.5-5.0	>6.0	---	---	None	Very brief	Occasional
		Jul-Aug	3.0-6.0	>6.0	---	---	None	Very brief	Rare
		Sep-Oct	4.0-6.0	>6.0	---	---	None	Very brief	Rare
		Nov	1.5-4.0	>6.0	---	---	None	Very brief	Rare
		Dec	0.5-2.0	>6.0	---	---	None	Very brief	Rare

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
KugG:									
Kurtz	C	Jan-Dec	---	---	---	---	None	---	None
Gnawbone	B	Jan-Dec	---	---	---	---	None	---	None
LeaA:									
Lauer	C	Jan-Apr	0.5-2.0	3.0-4.5	---	---	None	---	None
		May-Jun	1.0-3.5	3.5-5.0	---	---	None	---	None
		Jul-Aug	3.5-6.0	>6.0	---	---	None	---	None
		Sep-Oct	---	---	---	---	None	---	None
		Nov	1.0-3.0	3.0-4.5	---	---	None	---	None
		Dec	0.5-2.0	3.0-4.5	---	---	None	---	None
MecAQ:									
Martinsville	B	Jan-Jul	---	---	---	---	None	Brief	Rare
		Aug-Oct	---	---	---	---	None	Brief	Very rare
		Nov-Dec	---	---	---	---	None	Brief	Rare
MecB:									
Martinsville	B	Jan-Dec	---	---	---	---	None	---	None
MfwA:									
Martinsville, sandy substratum	B	Jan-Dec	---	---	---	---	None	---	None
MfwAQ:									
Martinsville, sandy substratum	B	Jan-Jul	---	---	---	---	None	Brief	Rare
		Aug-Oct	---	---	---	---	None	Brief	Very rare
		Nov-Dec	---	---	---	---	None	Brief	Rare
MfwB2:									
Martinsville, sandy substratum	B	Jan-Dec	---	---	---	---	None	---	None
MfxA:									
Martinsville, sandy substratum	B	Jan-Dec	---	---	---	---	None	---	None
MhuA:									
McGary	C	Jan-Apr	0.5-2.0	3.0-4.5	---	---	None	---	None
		May-Jun	1.0-3.5	3.5-5.0	---	---	None	---	None
		Jul-Aug	3.5-6.0	>6.0	---	---	None	---	None
		Sep-Oct	---	---	---	---	None	---	None
		Nov	1.0-3.0	3.0-4.5	---	---	None	---	None
		Dec	0.5-2.0	3.0-4.5	---	---	None	---	None
MhyB:									
Medora	C	Jan-Apr	2.0-3.0	2.5-3.5	---	---	None	---	None
		May	2.5-3.0	3.0-4.0	---	---	None	---	None
		Jun-Oct	---	---	---	---	None	---	None
		Nov	2.5-3.0	3.0-3.5	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.5	---	---	None	---	None
MhyC2:									
Medora	C	Jan-Apr	2.0-3.0	2.5-3.5	---	---	None	---	None
		May	2.5-3.0	3.0-4.0	---	---	None	---	None
		Jun-Oct	---	---	---	---	None	---	None
		Nov	2.5-3.0	3.0-3.5	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.5	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
MjjAH:									
Medway	B	Jan-Apr	1.5-2.0	>6.0	---	---	None	Brief	Frequent
		May	---	---	---	---	None	Brief	Frequent
		Jun	---	---	---	---	None	Brief	Occasional
		Jul-Oct	---	---	---	---	None	Brief	Rare
		Nov	---	---	---	---	None	Brief	Occasional
		Dec	1.5-2.0	>6.0	---	---	None	Brief	Occasional
MmoC3:									
Miami	B	Jan-Apr	2.0-3.0	2.5-3.3	---	---	None	---	None
		May-Jun	2.5-3.0	2.5-3.3	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	2.5-3.0	2.5-3.3	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.3	---	---	None	---	None
MmoD3:									
Miami	B	Jan-Apr	2.0-3.0	2.5-3.3	---	---	None	---	None
		May-Jun	2.5-3.0	2.5-3.3	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	2.5-3.0	2.5-3.3	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.3	---	---	None	---	None
MnpB2:									
Miami	B	Jan-Apr	2.0-3.0	2.5-3.3	---	---	None	---	None
		May-Jun	2.5-3.0	2.5-3.3	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	2.5-3.0	2.5-3.3	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.3	---	---	None	---	None
MnpC2:									
Miami	B	Jan-Apr	2.0-3.0	2.5-3.3	---	---	None	---	None
		May-Jun	2.5-3.0	2.5-3.3	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	2.5-3.0	2.5-3.3	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.3	---	---	None	---	None
MnpD2:									
Miami	B	Jan-Apr	2.0-3.0	2.5-3.3	---	---	None	---	None
		May-Jun	2.5-3.0	2.5-3.3	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	2.5-3.0	2.5-3.3	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.3	---	---	None	---	None
MqbA:									
Milton	C	Jan-Dec	---	---	---	---	None	---	None
MqbB2:									
Milton	C	Jan-Dec	---	---	---	---	None	---	None
MqbC2:									
Milton	C	Jan-Dec	---	---	---	---	None	---	None
MrbF:									
Milton	C	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop.									

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
NaaB2:									
Nabb	C	Jan-Apr	1.5-2.0	2.0-3.3	---	---	None	---	None
		May	2.0-3.5	5.0-6.7	---	---	None	---	None
		Jun	3.0-4.0	5.0-6.7	---	---	None	---	None
		Jul	4.0-6.0	>6.0	---	---	None	---	None
		Aug-Oct	---	---	---	---	None	---	None
		Nov	2.0-2.5	2.5-3.3	---	---	None	---	None
		Dec	1.5-2.0	2.0-3.3	---	---	None	---	None
NpcA:									
Nineveh	B	Jan-Dec	---	---	---	---	None	---	None
NpcAQ:									
Nineveh	B	Jan-Jul	---	---	---	---	None	Brief	Rare
		Aug-Oct	---	---	---	---	None	Brief	Very rare
		Nov-Dec	---	---	---	---	None	Brief	Rare
NpeA:									
Nineveh	B	Jan-Dec	---	---	---	---	None	---	None
NpeAQ:									
Nineveh	B	Jan-Jul	---	---	---	---	None	Brief	Rare
		Aug-Oct	---	---	---	---	None	Brief	Very rare
		Nov-Dec	---	---	---	---	None	Brief	Rare
NpeB2:									
Nineveh	B	Jan-Dec	---	---	---	---	None	---	None
ObaA:									
Ockley	B	Jan-Dec	---	---	---	---	None	---	None
OfaAW:									
Oldenburg	B	Jan-Apr	1.5-2.5	>6.0	---	---	None	Very brief	Occasional
		May	2.5-4.5	>6.0	---	---	None	Very brief	Occasional
		Jun	3.0-5.0	>6.0	---	---	None	Very brief	Occasional
		Jul-Aug	3.5-6.0	>6.0	---	---	None	Very brief	Rare
		Sep-Oct	---	---	---	---	None	Very brief	Rare
		Nov	2.5-4.5	>6.0	---	---	None	Very brief	Rare
		Dec	1.5-2.5	>6.0	---	---	None	Very brief	Rare
Omz:									
Orthents, earthen dam.									
PcrB2:									
Pekin	C	Jan-Apr	1.5-2.0	2.0-3.0	---	---	None	---	None
		May	2.0-3.5	5.0-6.7	---	---	None	---	None
		Jun	3.0-4.0	5.0-6.7	---	---	None	---	None
		Jul	4.0-6.0	>6.0	---	---	None	---	None
		Aug-Oct	---	---	---	---	None	---	None
		Nov	2.0-2.5	2.5-3.0	---	---	None	---	None
		Dec	1.5-2.0	2.0-3.0	---	---	None	---	None
PcrC2:									
Pekin	C	Jan-Apr	1.5-2.0	2.0-3.0	---	---	None	---	None
		May	2.0-3.5	5.0-6.7	---	---	None	---	None
		Jun	3.0-4.0	5.0-6.7	---	---	None	---	None
		Jul	4.0-6.0	>6.0	---	---	None	---	None
		Aug-Oct	---	---	---	---	None	---	None
		Nov	2.0-2.5	2.5-3.0	---	---	None	---	None
		Dec	1.5-2.0	2.0-3.0	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
PcrC3:									
Pekin	C	Jan-Apr	1.0-2.0	1.5-2.5	---	---	None	---	None
		May	1.5-3.0	5.0-6.7	---	---	None	---	None
		Jun	2.0-3.5	5.0-6.7	---	---	None	---	None
		Jul	4.0-6.0	>6.0	---	---	None	---	None
		Aug-Oct	---	---	---	---	None	---	None
		Nov	1.5-2.0	2.0-2.5	---	---	None	---	None
		Dec	1.0-2.0	1.5-2.5	---	---	None	---	None
PhaA:									
Peoga	C	Jan-Apr	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent	---	None
		May	0.0-1.5	5.0-6.7	0.0-0.5	Very brief	Frequent	---	None
		Jun	1.0-3.5	5.0-6.7	0.0-0.5	Very brief	Occasional	---	None
		Jul-Aug	3.5-6.0	>6.0	0.0-0.5	Very brief	Occasional	---	None
		Sep-Oct	---	---	0.0-0.5	Very brief	Rare	---	None
		Nov	0.0-1.5	3.5-5.0	0.0-0.5	Very brief	Occasional	---	None
		Dec	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent	---	None
PlpAV:									
Piopolis	C	Jan-Apr	0.0-1.0	>6.0	0.0-1.0	Very brief	Frequent	Very brief	Frequent
		May	1.5-3.5	>6.0	0.0-1.0	Very brief	Frequent	Very brief	Occasional
		Jun	2.0-4.0	>6.0	0.0-1.0	Very brief	Occasional	Very brief	Occasional
		Jul	3.0-5.0	>6.0	0.0-1.0	Very brief	Occasional	Very brief	Rare
		Aug	3.5-6.0	>6.0	0.0-1.0	Very brief	Occasional	Very brief	Rare
		Sep-Oct	5.0-6.0	>6.0	0.0-1.0	Very brief	Rare	Very brief	Rare
		Nov	0.5-1.5	>6.0	0.0-1.0	Very brief	Occasional	Very brief	Rare
		Dec	0.0-1.0	>6.0	0.0-1.0	Very brief	Frequent	Very brief	Occasional
Pml:									
Pits, quarry.									
PnnD:									
Pike	B	Jan-Dec	---	---	---	---	None	---	None
Chetwynd	B	Jan-Dec	---	---	---	---	None	---	None
PnnF:									
Pike	B	Jan-Dec	---	---	---	---	None	---	None
Chetwynd	B	Jan-Dec	---	---	---	---	None	---	None
Ppu:									
Pits, sand and gravel.									
RctD3:									
Rarden	C	Jan-Apr	1.0-2.0	1.7-3.3	---	---	None	---	None
		May-Nov	---	---	---	---	None	---	None
		Dec	1.0-2.0	1.7-3.3	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
RctD3:									
Coolville----------	C	Jan-Apr	1.0-2.0	3.3-5.0	---	---	None	---	None
		May	2.0-3.3	3.3-5.0	---	---	None	---	None
		Jun	2.5-3.3	3.3-5.0	---	---	None	---	None
		Jul-Oct	---	---	---	---	None	---	None
		Nov	2.5-3.3	3.3-5.0	---	---	None	---	None
		Dec	1.0-2.0	3.3-5.0	---	---	None	---	None
RehA:									
Rensselaer----------	B	Jan-Feb	0.0-0.3	>6.0	0.0-0.5	Long	Frequent	---	None
		Mar	0.0-0.7	>6.0	0.0-0.5	Long	Frequent	---	None
		Apr	0.5-1.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		May	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Jun	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Jul-Sep	---	---	0.0-0.5	Brief	Occasional	---	None
		Oct	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Nov	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Dec	0.0-0.3	>6.0	0.0-0.5	Long	Frequent	---	None
Treaty----------	B	Jan-Feb	0.0-0.3	>6.0	0.0-0.5	Long	Frequent	---	None
		Mar	0.0-0.7	>6.0	0.0-0.5	Long	Frequent	---	None
		Apr	0.5-1.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		May	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Jun	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Jul-Sep	---	---	0.0-0.5	Brief	Occasional	---	None
		Oct	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Nov	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Dec	0.0-0.3	>6.0	0.0-0.5	Long	Frequent	---	None
ReyA:									
Rensselaer----------	B	Jan-Mar	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
		Apr	0.5-1.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		May	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Jun	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Jul-Sep	---	---	0.0-0.5	Brief	Occasional	---	None
		Oct	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Nov	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Dec	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
ReyAQ:									
Rensselaer----------	B	Jan-Mar	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	Brief	Rare
		Apr	0.5-1.0	>6.0	0.0-0.5	Brief	Frequent	Brief	Rare
		May	2.0-3.1	>6.0	0.0-0.5	Brief	Frequent	Brief	Rare
		Jun	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		Jul	---	---	0.0-0.5	Brief	Occasional	Brief	Rare
		Aug-Sep	---	---	0.0-0.5	Brief	Occasional	Brief	Very rare
		Oct	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Very rare
		Nov	2.0-3.1	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		Dec	0.0-0.5	>6.0	0.0-0.5	Brief	Frequent	Brief	Rare
RqaG:									
Rodman----------	A	Jan-Dec	---	---	---	---	None	---	None
RtxAH:									
Rossburg----------	B	Jan-May	---	---	---	---	None	Brief	Frequent
		Jun	---	---	---	---	None	Brief	Occasional
		Jul-Oct	---	---	---	---	None	Brief	Rare
		Nov-Dec	---	---	---	---	None	Brief	Occasional
RtxAK:									
Rossburg----------	B	Jan-Jun	---	---	---	---	None	Brief	Occasional
		Jul-Dec	---	---	---	---	None	Brief	Rare

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
RywB2:									
Russell	B	Jan-Apr	3.3-6.0	4.8-6.0	---	---	None	---	None
		May-Oct	---	---	---	---	None	---	None
		Nov	4.0-6.0	4.8-6.0	---	---	None	---	None
		Dec	3.5-6.0	4.8-6.0	---	---	None	---	None
SfyA:									
Shircliff	C	Jan-Apr	1.5-2.5	3.3-5.0	---	---	None	---	None
		May	2.0-3.5	5.0-6.7	---	---	None	---	None
		Jun	2.5-4.0	5.0-6.7	---	---	None	---	None
		Jul	4.0-6.0	>6.0	---	---	None	---	None
		Aug-Oct	---	---	---	---	None	---	None
		Nov	2.5-3.5	3.3-5.0	---	---	None	---	None
		Dec	1.5-2.5	3.3-5.0	---	---	None	---	None
SifE:									
Senachwine	B	Jan-Dec	---	---	---	---	None	---	None
SifG:									
Senachwine	B	Jan-Dec	---	---	---	---	None	---	None
SldAH:									
Shoals	C	Jan-Mar	0.5-2.0	>6.0	---	---	None	Brief	Frequent
		Apr	0.5-3.0	>6.0	---	---	None	Brief	Frequent
		May	1.5-3.5	>6.0	---	---	None	Brief	Frequent
		Jun	1.5-3.5	>6.0	---	---	None	Brief	Occasional
		Jul-Sep	---	---	---	---	None	Brief	Rare
		Oct	1.5-3.5	>6.0	---	---	None	Brief	Rare
		Nov	1.5-3.5	>6.0	---	---	None	Brief	Occasional
		Dec	0.5-3.0	>6.0	---	---	None	Brief	Occasional
SldAW:									
Shoals	C	Jan-Mar	0.5-2.0	>6.0	---	---	None	Very brief	Occasional
		Apr	0.5-3.0	>6.0	---	---	None	Very brief	Occasional
		May-Jun	1.5-3.5	>6.0	---	---	None	Very brief	Occasional
		Jul-Sep	---	---	---	---	None	Very brief	Rare
		Oct-Nov	1.5-3.5	>6.0	---	---	None	Very brief	Rare
		Dec	0.5-3.0	>6.0	---	---	None	Very brief	Occasional
SnfA:									
Sleeth	C	Jan-Mar	0.5-1.5	>6.0	---	---	None	---	None
		Apr	0.5-3.0	>6.0	---	---	None	---	None
		May-Jun	1.5-3.5	>6.0	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	1.5-3.5	>6.0	---	---	None	---	None
		Dec	0.5-3.0	>6.0	---	---	None	---	None
SoaB:									
Spickert	C	Jan-Apr	1.5-2.5	2.0-3.0	---	---	None	---	None
		May	2.0-2.5	2.5-3.0	---	---	None	---	None
		Jun-Oct	---	---	---	---	None	---	None
		Nov	2.0-2.5	2.5-3.0	---	---	None	---	None
		Dec	1.5-2.5	2.0-3.0	---	---	None	---	None
SocAH:									
Sloan	B	Jan-Mar	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	Brief	Frequent
		Apr	0.0-0.5	>6.0	0.0-0.5	Brief	Occasional	Brief	Frequent
		May	0.5-1.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Occasional
		Jun	1.0-1.5	>6.0	0.0-0.5	Brief	Occasional	Brief	Occasional
		Jul-Sep	1.5-2.5	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		Oct	1.0-1.5	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		Nov	0.0-0.5	>6.0	0.0-0.5	Brief	Occasional	Brief	Occasional
		Dec	0.0-0.5	>6.0	0.0-0.5	Brief	Frequent	Brief	Occasional

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
SocAW:									
Sloan----------	B	Jan-Mar	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	Very brief	Occasional
		Apr	0.0-0.5	>6.0	0.0-0.5	Brief	Occasional	Very brief	Occasional
		May	0.5-1.0	>6.0	0.0-0.5	Brief	Occasional	Very brief	Occasional
		Jun	1.0-1.5	>6.0	0.0-0.5	Brief	Occasional	Very brief	Occasional
		Jul-Sep	1.5-2.5	>6.0	0.0-0.5	Brief	Occasional	Very brief	Rare
		Oct	1.0-1.5	>6.0	0.0-0.5	Brief	Occasional	Very brief	Rare
		Nov	0.0-0.5	>6.0	0.0-0.5	Brief	Occasional	Very brief	Occasional
		Dec	0.0-0.5	>6.0	0.0-0.5	Brief	Frequent	Very brief	Occasional
SoeC2:									
Spickert----------	C	Jan-Apr	1.5-2.5	2.0-3.0	---	---	None	---	None
		May	2.0-2.5	2.5-3.0	---	---	None	---	None
		Jun-Oct	---	---	---	---	None	---	None
		Nov	2.0-2.5	2.5-3.0	---	---	None	---	None
		Dec	1.5-2.5	2.0-3.0	---	---	None	---	None
Wrays----------	B	Jan-Dec	---	---	---	---	None	---	None
SolC2:									
Spickert----------	C	Jan-Apr	1.5-2.5	2.0-3.0	---	---	None	---	None
		May	2.0-2.5	2.5-3.0	---	---	None	---	None
		Jun-Oct	---	---	---	---	None	---	None
		Nov	2.0-2.5	2.5-3.0	---	---	None	---	None
		Dec	1.5-2.5	2.0-3.0	---	---	None	---	None
Wrays----------	B	Jan-Dec	---	---	---	---	None	---	None
SolC3:									
Spickert----------	C	Jan-Apr	1.0-2.0	1.5-2.5	---	---	None	---	None
		May	1.5-2.5	2.0-3.5	---	---	None	---	None
		Jun-Oct	---	---	---	---	None	---	None
		Nov	1.5-2.5	2.0-3.0	---	---	None	---	None
		Dec	1.0-2.0	1.5-2.5	---	---	None	---	None
Wrays----------	B	Jan-Dec	---	---	---	---	None	---	None
StaAV:									
Steff----------	B	Jan-Apr	1.5-2.5	>6.0	---	---	None	Very brief	Frequent
		May	2.5-4.5	>6.0	---	---	None	Very brief	Occasional
		Jun	3.0-5.0	>6.0	---	---	None	Very brief	Occasional
		Jul-Aug	3.5-6.0	>6.0	---	---	None	Very brief	Rare
		Sep-Oct	---	---	---	---	None	Very brief	Rare
		Nov	2.5-4.5	>6.0	---	---	None	Very brief	Rare
		Dec	1.5-2.5	>6.0	---	---	None	Very brief	Occasional
StdAQ:									
Stendal----------	C	Jan-Apr	0.5-2.0	>6.0	---	---	None	Very brief	Rare
		May	2.0-4.0	>6.0	---	---	None	Very brief	Rare
		Jun	2.5-5.0	>6.0	---	---	None	Very brief	Rare
		Jul-Aug	3.0-6.0	>6.0	---	---	None	Very brief	Very rare
		Sep-Oct	4.0-6.0	>6.0	---	---	None	Very brief	Very rare
		Nov	1.5-4.0	>6.0	---	---	None	Very brief	Very rare
		Dec	0.5-2.0	>6.0	---	---	None	Very brief	Very rare
StdAV:									
Stendal----------	C	Jan-Apr	0.5-2.0	>6.0	---	---	None	Very brief	Frequent
		May	2.0-4.0	>6.0	---	---	None	Very brief	Occasional
		Jun	2.5-5.0	>6.0	---	---	None	Very brief	Occasional
		Jul-Aug	3.0-6.0	>6.0	---	---	None	Very brief	Rare
		Sep-Oct	4.0-6.0	>6.0	---	---	None	Very brief	Rare
		Nov	1.5-4.0	>6.0	---	---	None	Very brief	Rare
		Dec	0.5-2.0	>6.0	---	---	None	Very brief	Occasional

Table 19.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
StmB:									
Stonehead	C	Jan-Apr	2.0-3.0	3.7-6.3	---	---	None	---	None
		May-Jun	2.5-4.0	3.7-6.3	---	---	None	---	None
		Jul-Oct	---	---	---	---	None	---	None
		Nov	2.5-4.0	3.7-6.3	---	---	None	---	None
		Dec	2.0-3.0	3.7-6.3	---	---	None	---	None
SucC2:									
Stonehead	C	Jan-Apr	2.0-3.0	3.7-6.3	---	---	None	---	None
		May-Jun	2.5-4.0	3.7-6.3	---	---	None	---	None
		Jul-Oct	---	---	---	---	None	---	None
		Nov	2.5-4.0	3.7-6.3	---	---	None	---	None
		Dec	2.0-3.0	3.7-6.3	---	---	None	---	None
Coolville	C	Jan-Apr	1.0-2.0	3.3-5.0	---	---	None	---	None
		May	2.0-3.3	3.3-5.0	---	---	None	---	None
		Jun	2.5-3.3	3.3-5.0	---	---	None	---	None
		Jul-Oct	---	---	---	---	None	---	None
		Nov	2.5-3.3	3.3-5.0	---	---	None	---	None
		Dec	1.0-2.0	3.3-5.0	---	---	None	---	None
SujD5:									
Stonehead, gullied	C	Jan-Apr	1.0-2.0	3.3-5.0	---	---	None	---	None
		May	2.0-3.3	3.3-5.0	---	---	None	---	None
		Jun	2.5-3.3	3.3-5.0	---	---	None	---	None
		Jul-Oct	---	---	---	---	None	---	None
		Nov	2.5-3.3	3.3-5.0	---	---	None	---	None
		Dec	1.0-2.0	3.3-5.0	---	---	None	---	None
SulC2:									
Stonehead	C	Jan-Apr	2.0-3.0	3.7-6.3	---	---	None	---	None
		May-Jun	2.5-4.0	3.7-6.3	---	---	None	---	None
		Jul-Oct	---	---	---	---	None	---	None
		Nov	2.5-4.0	3.7-6.3	---	---	None	---	None
		Dec	2.0-3.0	3.7-6.3	---	---	None	---	None
Wellrock	B	Jan-Dec	---	---	---	---	None	---	None
SuoAH:									
Stonelick	B	Jan-Jun	---	---	---	---	None	Brief	Frequent
		Jul-Oct	---	---	---	---	None	Brief	Rare
		Nov-Dec	---	---	---	---	None	Brief	Occasional
Uaz:									
Udorthents, sandy.									
Uby:									
Udorthents, loamy.									
UemB:									
Urban land.									
Alvin	B	Jan-Dec	---	---	---	---	None	---	None
Princeton	B	Jan-Dec	---	---	---	---	None	---	None
UemC:									
Urban land.									
Alvin	B	Jan-Dec	---	---	---	---	None	---	None
Princeton	B	Jan-Dec	---	---	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
UenA:									
Urban land.									
Fox	B	Jan-Dec	---	---	---	---	None	---	None
UenB:									
Urban land.									
Fox	B	Jan-Dec	---	---	---	---	None	---	None
UepC:									
Urban land.									
Fox	B	Jan-Dec	---	---	---	---	None	---	None
Casco	B	Jan-Dec	---	---	---	---	None	---	None
UfcB:									
Urban land.									
Cincinnati	C	Jan-Apr	1.7-3.0	2.5-3.5	---	---	None	---	None
		May	2.5-3.0	3.0-4.0	---	---	None	---	None
		Jun-Oct	---	---	---	---	None	---	None
		Nov	2.5-3.0	3.0-3.5	---	---	None	---	None
		Dec	1.7-3.0	2.5-3.5	---	---	None	---	None
Nabb	C	Jan-Apr	1.5-2.0	2.0-3.3	---	---	None	---	None
		May	2.0-3.5	5.0-6.7	---	---	None	---	None
		Jun	3.0-4.0	5.0-6.7	---	---	None	---	None
		Jul	4.0-6.0	> 6.0	---	---	None	---	None
		Aug-Oct	---	---	---	---	None	---	None
		Nov	2.0-2.5	2.5-3.3	---	---	None	---	None
		Dec	1.5-2.0	2.0-3.3	---	---	None	---	None
UfdA:									
Urban land.									
Cobbsfork	C	Jan-Apr	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent	---	None
		May	0.0-1.5	5.0-6.7	0.0-0.5	Very brief	Frequent	---	None
		Jun	1.0-3.5	5.0-6.7	0.0-0.5	Very brief	Occasional	---	None
		Jul-Aug	3.5-6.0	>6.0	0.0-0.5	Very brief	Occasional	---	None
		Sep-Oct	---	---	0.0-0.5	Very brief	Rare	---	None
		Nov	0.0-1.5	3.5-5.0	0.0-0.5	Very brief	Occasional	---	None
		Dec	0.0-1.0	3.5-5.0	0.0-0.5	Very brief	Frequent	---	None
Avonburg	C	Jan-Apr	0.5-2.0	3.3-5.0	---	---	None	---	None
		May	1.0-3.5	5.0-6.7	---	---	None	---	None
		Jun	2.0-3.5	5.0-6.7	---	---	None	---	None
		Jul-Aug	3.5-6.0	>6.0	---	---	None	---	None
		Sep-Oct	---	---	---	---	None	---	None
		Nov	1.0-3.0	3.3-5.0	---	---	None	---	None
		Dec	0.5-2.0	3.3-5.0	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
UfnA:									
Urban land.									
Crosby----------	C	Jan-Mar	0.5-2.0	2.0-3.3	---	---	None	---	None
		Apr	0.5-3.0	2.0-3.3	---	---	None	---	None
		May-Jun	1.5-3.3	2.0-3.3	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	1.5-3.3	2.0-3.3	---	---	None	---	None
		Dec	0.5-3.0	2.0-3.3	---	---	None	---	None
UfoA:									
Urban land.									
Cyclone----------	B	Jan-Mar	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
		Apr	0.5-1.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		May	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Jun	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Jul-Sep	---	---	0.0-0.5	Brief	Occasional	---	None
		Oct	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Nov	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Dec	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
UfxA:									
Urban land.									
Fincastle----------	C	Jan-Mar	0.5-2.0	3.3-5.0	---	---	None	---	None
		Apr	0.5-3.0	3.3-5.0	---	---	None	---	None
		May-Jun	1.5-3.3	3.3-5.0	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	1.5-3.3	3.3-5.0	---	---	None	---	None
		Dec	0.5-3.0	3.3-5.0	---	---	None	---	None
UfyB:									
Urban land.									
Fincastle----------	C	Jan-Mar	0.5-2.0	3.5-5.0	---	---	None	---	None
		Apr	0.5-3.0	3.5-5.0	---	---	None	---	None
		May-Jun	1.5-3.5	4.5-5.0	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	1.5-3.5	4.5-5.0	---	---	None	---	None
		Dec	0.5-3.0	3.5-5.0	---	---	None	---	None
Russell----------	B	Jan-Apr	3.3-6.0	4.8-6.0	---	---	None	---	None
		May-Oct	---	---	---	---	None	---	None
		Nov	4.0-6.0	4.8-6.0	---	---	None	---	None
		Dec	3.5-6.0	4.8-6.0	---	---	None	---	None
UhyA:									
Urban land.									
Martinsville, sandy substratum----------	B	Jan-Dec	---	---	---	---	None	---	None
UkbC:									
Urban land.									
Miami----------	B	Jan-Apr	2.0-3.0	2.5-3.3	---	---	None	---	None
		May-Jun	2.5-3.0	2.5-3.3	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	2.5-3.0	2.5-3.3	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.3	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
UkpA:									
Urban land.									
Ockley----------	B	Jan-Dec	---	---	---	---	None	---	None
UkqA:									
Urban land.									
Nineveh----------	B	Jan-Dec	---	---	---	---	None	---	None
UkqB:									
Urban land.									
Nineveh----------	B	Jan-Dec	---	---	---	---	None	---	None
UmqA:									
Urban land.									
Sleeth----------	C	Jan-Mar	0.5-1.5	>6.0	---	---	None	---	None
		Apr	0.5-3.0	>6.0	---	---	None	---	None
		May-Jun	1.5-3.5	>6.0	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	1.5-3.5	>6.0	---	---	None	---	None
		Dec	0.5-3.0	>6.0	---	---	None	---	None
UnnA:									
Urban land.									
Westland----------	B	Jan-Mar	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
		Apr	0.5-1.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		May	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Jun	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Jul-Sep	---	---	0.0-0.5	Brief	Occasional	---	None
		Oct	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Nov	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Dec	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
Usl:									
Udorthents, rubbish.									
W:									
Water.									
WaaAV:									
Wakeland----------	C	Jan-Apr	0.5-2.0	>6.0	---	---	None	Very brief	Frequent
		May	2.0-4.0	>6.0	---	---	None	Very brief	Occasional
		Jun	2.5-5.0	>6.0	---	---	None	Very brief	Occasional
		Jul-Aug	3.0-6.0	>6.0	---	---	None	Very brief	Rare
		Sep-Oct	4.0-6.0	>6.0	---	---	None	Very brief	Rare
		Nov	1.5-4.0	>6.0	---	---	None	Very brief	Rare
		Dec	0.5-2.0	>6.0	---	---	None	Very brief	Occasional
WaaAW:									
Wakeland----------	C	Jan-Apr	0.5-2.0	>6.0	---	---	None	Very brief	Occasional
		May	2.0-4.0	>6.0	---	---	None	Very brief	Occasional
		Jun	2.5-5.0	>6.0	---	---	None	Very brief	Occasional
		Jul-Aug	3.0-6.0	>6.0	---	---	None	Very brief	Rare
		Sep-Oct	4.0-6.0	>6.0	---	---	None	Very brief	Rare
		Nov	1.5-4.0	>6.0	---	---	None	Very brief	Rare
		Dec	0.5-2.0	>6.0	---	---	None	Very brief	Rare

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
WacAW:									
Wakeland	C	Jan-Apr	0.5-2.0	>6.0	---	---	None	Very brief	Occasional
		May	2.0-4.0	>6.0	---	---	None	Very brief	Occasional
		Jun	2.5-5.0	>6.0	---	---	None	Very brief	Occasional
		Jul-Aug	3.0-6.0	>6.0	---	---	None	Very brief	Rare
		Sep-Oct	4.0-6.0	>6.0	---	---	None	Very brief	Rare
		Nov	1.5-4.0	>6.0	---	---	None	Very brief	Rare
		Dec	0.5-2.0	>6.0	---	---	None	Very brief	Rare
Birds	C	Jan-Apr	0.0-1.0	>6.0	0.0-0.5	Brief	Frequent	Very brief	Occasional
		May	1.5-3.5	>6.0	0.0-0.5	Very brief	Frequent	Very brief	Occasional
		Jun	2.0-4.0	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Occasional
		Jul	3.0-5.0	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Rare
		Aug	3.5-6.0	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Rare
		Sep-Oct	5.0-6.0	>6.0	0.0-0.5	Very brief	Rare	Very brief	Rare
		Nov	0.5-1.5	>6.0	0.0-0.5	Very brief	Occasional	Very brief	Rare
		Dec	0.0-1.0	>6.0	0.0-0.5	Brief	Frequent	Very brief	Rare
WbiAW:									
Wilbur	B	Jan-Apr	1.5-2.5	>6.0	---	---	None	Very brief	Occasional
		May	2.5-4.5	>6.0	---	---	None	Very brief	Occasional
		Jun	3.0-5.0	>6.0	---	---	None	Very brief	Occasional
		Jul-Aug	3.5-6.0	>6.0	---	---	None	Very brief	Rare
		Sep-Oct	---	---	---	---	None	Very brief	Rare
		Nov	2.5-4.5	>6.0	---	---	None	Very brief	Rare
		Dec	1.5-2.5	>6.0	---	---	None	Very brief	Rare
Wakeland	C	Jan-Apr	0.5-2.0	>6.0	---	---	None	Very brief	Occasional
		May	2.0-4.0	>6.0	---	---	None	Very brief	Occasional
		Jun	2.5-5.0	>6.0	---	---	None	Very brief	Occasional
		Jul-Aug	3.0-6.0	>6.0	---	---	None	Very brief	Rare
		Sep-Oct	4.0-6.0	>6.0	---	---	None	Very brief	Rare
		Nov	1.5-4.0	>6.0	---	---	None	Very brief	Rare
		Dec	0.5-2.0	>6.0	---	---	None	Very brief	Rare
WdlC2:									
Wawaka	B	Jan-Dec	---	---	---	---	None	---	None
WdrB2:									
Wawaka	B	Jan-Dec	---	---	---	---	None	---	None
WokAW:									
Wilbur	B	Jan-Apr	1.5-2.5	>6.0	---	---	None	Very brief	Occasional
		May	2.5-4.5	>6.0	---	---	None	Very brief	Occasional
		Jun	3.0-5.0	>6.0	---	---	None	Very brief	Occasional
		Jul-Aug	3.5-6.0	>6.0	---	---	None	Very brief	Rare
		Sep-Oct	---	---	---	---	None	Very brief	Rare
		Nov	2.5-4.5	>6.0	---	---	None	Very brief	Rare
		Dec	1.5-2.5	>6.0	---	---	None	Very brief	Rare

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
WolAV:									
Wilhite----------	C	Jan-Apr	0.0-1.0	>6.0	0.0-1.0	Very brief	Frequent	Very brief	Frequent
		May	1.5-3.5	>6.0	0.0-1.0	Very brief	Frequent	Very brief	Occasional
		Jun	2.0-4.0	>6.0	0.0-1.0	Very brief	Occasional	Very brief	Occasional
		Jul	3.0-5.0	>6.0	0.0-1.0	Very brief	Occasional	Very brief	Rare
		Aug	3.5-6.0	>6.0	0.0-1.0	Very brief	Occasional	Very brief	Rare
		Sep-Oct	5.0-6.0	>6.0	0.0-1.0	Very brief	Rare	Very brief	Rare
		Nov	0.5-1.5	>6.0	0.0-1.0	Very brief	Occasional	Very brief	Rare
		Dec	0.0-1.0	>6.0	0.0-1.0	Very brief	Frequent	Very brief	Occasional
WprAV:									
Wirt----------	B	Jan-Apr	---	---	---	---	None	Very brief	Frequent
		May-Jun	---	---	---	---	None	Very brief	Occasional
		Jul-Nov	---	---	---	---	None	Very brief	Rare
		Dec	---	---	---	---	None	Very brief	Occasional
WprAW:									
Wirt----------	B	Jan-Jun	---	---	---	---	None	Very brief	Occasional
		Jul-Dec	---	---	---	---	None	Very brief	Rare
WqlA:									
Westland----------	B	Jan-Mar	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
		Apr	0.5-1.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		May	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Jun	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Jul-Sep	---	---	0.0-0.5	Brief	Occasional	---	None
		Oct	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Nov	2.0-3.0	>6.0	0.0-0.5	Brief	Occasional	---	None
		Dec	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	---	None
WqlAQ:									
Westland----------	B	Jan-Mar	0.0-0.5	>6.0	0.0-0.5	Long	Frequent	Brief	Rare
		Apr	0.5-1.0	>6.0	0.0-0.5	Brief	Frequent	Brief	Rare
		May	2.0-3.1	>6.0	0.0-0.5	Brief	Frequent	Brief	Rare
		Jun	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		Jul	---	---	0.0-0.5	Brief	Occasional	Brief	Rare
		Aug-Sep	---	---	0.0-0.5	Brief	Occasional	Brief	Very rare
		Oct	4.0-5.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Very rare
		Nov	2.0-3.1	>6.0	0.0-0.5	Brief	Occasional	Brief	Rare
		Dec	0.0-0.5	>6.0	0.0-0.5	Brief	Frequent	Brief	Rare
WsuA:									
Whitaker----------	C	Jan-Mar	0.5-2.0	>6.0	---	---	None	---	None
		Apr	0.5-3.0	>6.0	---	---	None	---	None
		May-Jun	1.5-3.5	>6.0	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	1.5-3.5	>6.0	---	---	None	---	None
		Dec	0.5-3.0	>6.0	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
WsyAQ:									
Whitaker	C	Jan-Mar	0.5-2.0	>6.0	---	---	None	Brief	Rare
		Apr	0.5-3.0	>6.0	---	---	None	Brief	Rare
		May-Jun	1.5-3.5	>6.0	---	---	None	Brief	Rare
		Jul-Sep	---	---	---	---	None	Brief	Very rare
		Oct-Nov	1.5-3.5	>6.0	---	---	None	Brief	Very rare
		Dec	0.5-3.0	>6.0	---	---	None	Brief	Very rare
WufB2:									
Williamstown	C	Jan-Mar	1.0-2.5	2.0-3.3	---	---	None	---	None
		Apr	1.5-2.5	2.0-3.3	---	---	None	---	None
		May	1.5-3.0	2.0-3.3	---	---	None	---	None
		Jun	1.5-3.3	2.0-3.3	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct	1.5-3.3	2.0-3.3	---	---	None	---	None
		Nov	1.5-3.0	2.0-3.3	---	---	None	---	None
		Dec	1.0-2.5	2.0-3.3	---	---	None	---	None
XabB2:									
Xenia	B	Jan-Apr	1.5-2.5	3.3-5.0	---	---	None	---	None
		May	2.0-3.5	3.3-5.0	---	---	None	---	None
		Jun	2.0-3.3	3.3-5.0	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	2.0-3.3	3.3-5.0	---	---	None	---	None
		Dec	1.5-2.5	3.3-5.0	---	---	None	---	None
XfuB2:									
Miami	B	Jan-Apr	2.0-3.0	2.5-3.3	---	---	None	---	None
		May-Jun	2.5-3.0	2.5-3.3	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	2.5-3.0	2.5-3.3	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.3	---	---	None	---	None
Rainsville	B	Jan-Apr	2.0-3.5	3.5-5.0	---	---	None	---	None
		May-Jun	3.5-4.5	3.5-5.0	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	3.5-4.5	3.5-5.0	---	---	None	---	None
		Dec	2.0-3.5	3.5-5.0	---	---	None	---	None
XrbC2:									
Miami	B	Jan-Apr	2.0-3.0	2.5-3.5	---	---	None	---	None
		May-Jun	2.5-3.0	2.5-3.5	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	2.5-3.0	2.5-3.5	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.5	---	---	None	---	None
Rainsville	B	Jan-Apr	2.0-3.5	3.5-5.0	---	---	None	---	None
		May-Jun	3.5-4.5	3.5-5.0	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	3.5-4.5	3.5-5.0	---	---	None	---	None
		Dec	2.0-3.5	3.5-5.0	---	---	None	---	None
XrkD2:									
Miami	B	Jan-Apr	2.0-3.0	2.5-3.5	---	---	None	---	None
		May-Jun	2.5-3.0	2.5-3.5	---	---	None	---	None
		Jul-Sep	---	---	---	---	None	---	None
		Oct-Nov	2.5-3.0	2.5-3.5	---	---	None	---	None
		Dec	2.0-3.0	2.5-3.5	---	---	None	---	None
Kendallville	B	Jan-Dec	---	---	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft.	Ft.	Ft.				
ZboA:									
Zipp----------	C	Jan-Apr	0.0-1.0	>6.0	0.0-1.0	Very brief	Frequent	---	None
		May	1.5-3.5	>6.0	0.0-1.0	Very brief	Frequent	---	None
		Jun	2.0-4.0	>6.0	0.0-1.0	Very brief	Occasional	---	None
		Jul	3.0-5.0	>6.0	0.0-1.0	Very brief	Occasional	---	None
		Aug	3.5-6.0	>6.0	0.0-1.0	Very brief	Occasional	---	None
		Sep-Oct	5.0-6.0	>6.0	0.0-1.0	Very brief	Rare	---	None
		Nov	0.5-1.5	>6.0	0.0-1.0	Very brief	Occasional	---	None
		Dec	0.0-1.0	>6.0	0.0-1.0	Very brief	Frequent	---	None

Table 20.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer			Potential for frost action	Soil slippage potential	Risk of corrosion	
	Kind	Depth to top	Hardness			Uncoated steel	Concrete
		In					
AddA:							
Avonburg	Fragipan	40-60	Noncemented	High	---	High	High
AddB2:							
Avonburg	Fragipan	40-60	Noncemented	High	---	High	High
AfsB:							
Alvin	---	---	---	Moderate	---	Low	High
Princeton	---	---	---	Moderate	---	Moderate	Moderate
AfsC2:							
Alvin	---	---	---	Moderate	Low	Low	High
Princeton	---	---	---	Moderate	Low	Moderate	Moderate
AmkA:							
Ayrshire	---	---	---	High	---	High	Moderate
BbhA:							
Bartle	---	---	---	High	---	High	High
BbiB:							
Bartle	---	---	---	High	---	High	High
Pekin	---	---	---	High	---	High	High
BcrAW:							
Beanblossom	Bedrock (paralithic)	40-60	Moderately cemented	High	---	Moderate	Moderate
BdhAH:							
Bellcreek	---	---	---	High	---	Moderate	Low
BfbAH:							
Bellcreek	---	---	---	High	---	Moderate	Low
BgeAW:							
Birds	---	---	---	High	---	High	Moderate
BlgC2:							
Blocher	---	---	---	High	Low	High	High
Cincinnati	Fragipan	20-36	Noncemented	High	Low	Moderate	High
BlgC3:							
Blocher	---	---	---	High	Low	High	High
Cincinnati	Fragipan	10-20	Noncemented	High	Low	Moderate	High
BlhD2:							
Blocher	---	---	---	High	Medium	High	High
Bonnell	---	---	---	High	Medium	High	High
BluC:							
Bloomfield	---	---	---	Low	Low	Low	High
Alvin	---	---	---	Moderate	Low	Low	High

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
BnuD3:							
Bonnell----------	---	---	---	Moderate	Medium	High	High
Hickory----------	---	---	---	Moderate	Medium	Moderate	Moderate
Blocher----------	---	---	---	High	Medium	High	High
BobE5:							
Bonnell, gullied-	---	---	---	Moderate	Medium	High	High
Hickory, gullied-	---	---	---	Moderate	Medium	Moderate	Moderate
BodAV:							
Bonnie----------	---	---	---	High	---	High	High
CldB2:							
Cincinnati-------	Fragipan	20-36	Noncemented	High	---	Moderate	High
Blocher----------	---	---	---	High	---	High	High
ClfA:							
Cobbsfork--------	---	---	---	High	---	High	High
CmbAW:							
Cohoctah---------	---	---	---	High	---	High	Low
CmzA:							
Cliftycreek------	Bedrock (lithic)	60-80	Very strongly cemented	Moderate	---	High	Moderate
CmzB2:							
Cliftycreek------	Bedrock (lithic)	60-80	Very strongly cemented	Moderate	---	High	Moderate
CmzC2:							
Cliftycreek------	Bedrock (lithic)	60-80	Very strongly cemented	Moderate	Low	High	Moderate
ColD2:							
Coolville--------	Bedrock (paralithic)	40-60	Moderately cemented	High	High	High	High
Rarden-----------	Bedrock (paralithic)	20-40	Moderately cemented	High	High	High	High
Stonehead--------	Bedrock (paralithic)	44-75	Weakly cemented	High	High	High	High
ConC3:							
Coolville--------	Bedrock (paralithic)	40-60	Moderately cemented	High	Medium	High	High
Rarden-----------	Bedrock (paralithic)	20-40	Moderately cemented	High	Medium	High	High
CudA:							
Crosby-----------	Dense material	20-40	---	High	---	High	Moderate

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
CulB:							
Crosby	Dense material	20-40	---	High	---	High	Moderate
Williamstown	Dense material	20-40	---	Moderate	---	High	Moderate
CxdA:							
Cyclone	---	---	---	High	---	High	Low
DbqE:							
Deam, very deep	---	---	---	High	High	High	High
EcyAH:							
Eel	---	---	---	High	---	Moderate	Low
EcyAW:							
Eel	---	---	---	High	---	Moderate	Low
EdeAW:							
Eel	---	---	---	High	---	Moderate	Low
EepAQ:							
Elkinsville	---	---	---	High	---	Moderate	High
FdbA:							
Fincastle	Dense material	40-60	---	High	---	High	Moderate
FdqB:							
Fincastle	Dense material	40-60	---	High	---	High	Moderate
Xenia	Dense material	40-60	---	High	---	High	Moderate
FexA:							
Fox	Strongly contrasting textural stratification	20-40	---	Moderate	---	Moderate	Moderate
FexAQ:							
Fox	Strongly contrasting textural stratification	20-40	---	Moderate	---	Moderate	Moderate
FexB2:							
Fox	Strongly contrasting textural stratification	20-40	---	Moderate	---	Moderate	Moderate
FgqC3:							
Fox	Strongly contrasting textural stratification	20-40	---	Low	Low	Moderate	Moderate
Casco	Strongly contrasting textural stratification	10-20	---	Low	Low	Moderate	Moderate

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
GccAH:							
Genesee----------	---	---	---	Moderate	---	Low	Low
GccAW:							
Genesee----------	---	---	---	Moderate	---	Low	Low
GcpAW:							
Genesee----------	---	---	---	High	---	Low	Low
GgbG:							
Gilwood----------	Bedrock (lithic)	20-40	Very strongly cemented	Moderate	Medium	Moderate	High
Brownstown-------	Bedrock (lithic)	20-40	Strongly cemented	Moderate	Medium	Low	High
GgfD2:							
Gilwood----------	Bedrock (lithic)	20-40	Very strongly cemented	High	Medium	Moderate	High
Wrays----------	Bedrock (lithic)	40-60	Very strongly cemented	High	Medium	High	High
HcgAW:							
Haymond----------	---	---	---	High	---	Low	Low
HctAW:							
Haymond----------	---	---	---	High	---	Low	Low
Wirt----------	---	---	---	High	---	Low	Moderate
HeoF:							
Hickory----------	---	---	---	High	Medium	Moderate	Moderate
HleAW:							
Holton----------	---	---	---	High	---	High	Moderate
KugG:							
Kurtz----------	Bedrock (paralithic)	40-60	Moderately cemented	High	High	Moderate	High
Gnawbone---------	Bedrock (paralithic)	20-40	Moderately cemented	Moderate	High	Moderate	High
LeaA:							
Lauer----------	---	---	---	High	---	High	Moderate
MecAQ:							
Martinsville-----	---	---	---	Moderate	---	Moderate	Low
MecB:							
Martinsville-----	---	---	---	Moderate	---	Moderate	Low
MfwA:							
Martinsville, sandy substratum	Strongly contrasting textural stratification	60-80	---	Moderate	---	Moderate	Moderate

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
MfwAQ:							
Martinsville, sandy substratum	Strongly contrasting textural stratification	60-80	---	Moderate	---	Moderate	Moderate
MfwB2:							
Martinsville, sandy substratum	Strongly contrasting textural stratification	60-80	---	Moderate	---	Moderate	Moderate
MfxA:							
Martinsville, sandy substratum	Strongly contrasting textural stratification	60-80	---	Moderate	---	Low	High
MhuA:							
McGary	---	---	---	High	---	High	Low
MhyB:							
Medora	---	---	---	High	---	Moderate	High
MhyC2:							
Medora	---	---	---	High	Low	Moderate	High
MjjAH:							
Medway	---	---	---	High	---	High	Low
MmoC3:							
Miami	Dense material	24-40	---	Moderate	Low	Moderate	Moderate
MmoD3:							
Miami	Dense material	24-40	---	Moderate	Medium	Moderate	Low
MnpB2:							
Miami	Dense material	24-40	---	Moderate	---	Moderate	Moderate
MnpC2:							
Miami	Dense material	24-40	---	Moderate	Low	Moderate	Moderate
MnpD2:							
Miami	Dense material	24-40	---	Moderate	Medium	Moderate	Moderate
MqbA:							
Milton	Bedrock (lithic)	20-40	Very strongly cemented	Moderate	---	High	Moderate
MqbB2:							
Milton	Bedrock (lithic)	20-40	Very strongly cemented	Moderate	---	High	Moderate

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
MqbC2:							
Milton----------	Bedrock (lithic)	20-40	Very strongly cemented	Moderate	Low	High	Moderate
MrbF:							
Milton----------	Bedrock (lithic)	20-40	Very strongly cemented	Moderate	Medium	Moderate	Low
Rock outcrop-----	Bedrock (lithic)	0-0	Very strongly cemented	---	---	---	---
NaaB2:							
Nabb----------	Fragipan	24-40	Noncemented	High	---	High	High
NpcA:							
Nineveh----------	Strongly contrasting textural stratification	24-40	---	Moderate	---	Low	Low
NpcAQ:							
Nineveh----------	Strongly contrasting textural stratification	24-40	---	Moderate	---	Low	Low
NpeA:							
Nineveh----------	Strongly contrasting textural stratification	24-40	---	Moderate	---	Low	Low
NpeAQ:							
Nineveh----------	Strongly contrasting textural stratification	24-40	---	Moderate	---	Low	Low
NpeB2:							
Nineveh----------	Strongly contrasting textural stratification	24-40	---	Moderate	---	Low	Low
ObaA:							
Ockley----------	Strongly contrasting textural stratification	40-72	---	Moderate	---	Moderate	Moderate
OfaAW:							
Oldenburg--------	---	---	---	Moderate	---	Moderate	Moderate
Omz:							
Orthents, earthen dam.							
PcrB2:							
Pekin----------	---	---	---	High	---	High	High

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
PcrC2:							
Pekin----------	---	---	---	High	Low	High	High
PcrC3:							
Pekin----------	---	---	---	High	Low	High	High
PhaA:							
Peoga----------	---	---	---	High	---	High	High
PlpAV:							
Piopolis---------	---	---	---	High	---	High	Moderate
Pml:							
Pits, quarry.							
PnnD:							
Pike----------	---	---	---	High	Medium	Moderate	High
Chetwynd---------	---	---	---	High	Medium	Moderate	High
PnnF:							
Pike----------	---	---	---	High	Medium	Moderate	High
Chetwynd---------	---	---	---	High	Medium	Moderate	High
Ppu:							
Pits, sand and gravel.							
RctD3:							
Rarden----------	Bedrock (paralithic)	20-40	Moderately cemented	High	High	High	High
Coolville--------	Bedrock (paralithic)	40-60	Moderately cemented	High	High	High	High
RehA:							
Rensselaer-------	---	---	---	High	---	High	Low
Treaty----------	---	---	---	High	---	High	Low
ReyA:							
Rensselaer-------	---	---	---	High	---	Moderate	Low
ReyAQ:							
Rensselaer-------	---	---	---	High	---	Moderate	Low
RqaG:							
Rodman----------	Strongly contrasting textural stratification	10-20	---	Low	Medium	Low	Low
RtxAH:							
Rossburg---------	---	---	---	Moderate	---	Low	Low
RtxAK:							
Rossburg---------	---	---	---	Moderate	---	Low	Low
RywB2:							
Russell----------	Dense material	40-60	---	High	---	Moderate	Moderate

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
SfyA:							
Shircliff--------	---	---	---	High	---	High	Moderate
SifE:							
Senachwine-------	---	---	---	Moderate	Medium	Low	Low
SifG:							
Senachwine-------	---	---	---	Moderate	Medium	Low	Low
SldAH:							
Shoals----------	---	---	---	High	---	High	Low
SldAW:							
Shoals----------	---	---	---	High	---	High	Low
SnfA:							
Sleeth----------	Strongly contrasting textural stratification	40-60	---	High	---	High	Low
SoaB:							
Spickert---------	Bedrock (lithic)	60-90	Very strongly cemented	High	---	High	High
SocAH:							
Sloan----------	---	---	---	High	---	High	Low
SocAW:							
Sloan----------	---	---	---	High	---	High	Low
SoeC2:							
Spickert---------	Bedrock (lithic)	60-90	Very strongly cemented	High	Low	High	High
Wrays----------	Bedrock (lithic)	40-60	Very strongly cemented	High	Low	High	High
SolC2:							
Spickert---------	Bedrock (lithic)	60-90	Very strongly cemented	High	Low	High	High
Wrays----------	Bedrock (lithic)	40-60	Very strongly cemented	High	Low	High	High
SolC3:							
Spickert---------	Bedrock (lithic)	60-90	Very strongly cemented	High	Low	High	High
Wrays----------	Bedrock (lithic)	40-60	Very strongly cemented	High	Low	High	High
StaAV:							
Steff----------	---	---	---	High	---	Moderate	High
StdAQ:							
Stendal----------	---	---	---	High	---	High	High

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
StdAV:							
Stendal----------	---	---	---	High	---	High	High
StmB:							
Stonehead--------	Bedrock (paralithic)	44-75	Weakly cemented	High	---	High	High
SucC2:							
Stonehead--------	Bedrock (paralithic)	44-75	Weakly cemented	High	Medium	High	High
Coolville--------	Bedrock (paralithic)	40-60	Moderately cemented	High	Medium	High	High
SujD5:							
Stonehead, gullied---------	Bedrock (paralithic)	40-60	Moderately cemented	High	High	High	High
SulC2:							
Stonehead--------	Bedrock (paralithic)	44-75	Weakly cemented	High	Medium	High	High
Wellrock---------	Bedrock (paralithic)	40-60	Moderately cemented	High	Medium	High	High
SuoAH:							
Stonelick--------	---	---	---	Moderate	---	Low	Low
Uaz:							
Udorthents, sandy							
Uby:							
Udorthents, loamy							
UemB:							
Urban land.							
Alvin----------	---	---	---	Moderate	---	Low	High
Princeton--------	---	---	---	Moderate	---	Moderate	Moderate
UemC:							
Urban land.							
Alvin----------	---	---	---	Moderate	Low	Low	High
Princeton--------	---	---	---	Moderate	Low	Moderate	Moderate
UenA:							
Urban land.							
Fox----------	Strongly contrasting textural stratification	20-40	---	Moderate	---	Moderate	Moderate
UenB:							
Urban land.							
Fox----------	Strongly contrasting textural stratification	20-40	---	Moderate	---	Moderate	Moderate

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
UepC:							
Urban land.							
Fox----------	Strongly contrasting textural stratification	20-40	---	Moderate	Low	Moderate	Moderate
Casco----------	Strongly contrasting textural stratification	10-20	---	Low	Low	Moderate	Moderate
UfcB:							
Urban land.							
Cincinnati-------	Fragipan	20-36	Noncemented	High	Low	Moderate	High
Nabb----------	Fragipan	24-40	Noncemented	High	---	High	High
UfdA:							
Urban land.							
Cobbsfork--------	---	---	---	High	---	High	High
Avonburg---------	Fragipan	40-60	Noncemented	High	---	High	High
UfnA:							
Urban land-------	---	---	---	---	---	---	---
Crosby----------	Dense material	20-40	---	High	---	High	Moderate
UfoA:							
Urban land.							
Cyclone----------	---	---	---	High	---	High	Low
UfxA:							
Urban land.							
Fincastle--------	Dense material	40-60	---	High	---	High	Moderate
UfyB:							
Urban land.							
Fincastle--------	Dense material	40-60	---	High	---	High	Moderate
Russell----------	Dense material	40-60	---	High	---	Moderate	Moderate
UhyA:							
Urban land.							
Martinsville, sandy substratum	Strongly contrasting textural stratification	60-80	---	Moderate	---	Moderate	Moderate

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
UkbC:							
Urban land.							
Miami----------	Dense material	24-40	---	Moderate	Low	Moderate	Moderate
UkpA:							
Urban land.							
Ockley----------	Strongly contrasting textural stratification	40-72	---	Moderate	---	Moderate	Moderate
UkqA:							
Urban land.							
Nineveh----------	Strongly contrasting textural stratification	24-40	---	Moderate	---	Low	Low
UkqB:							
Urban land.							
Nineveh----------	Strongly contrasting textural stratification	24-40	---	Moderate	---	Low	Low
UmqA:							
Urban land.							
Sleeth----------	Strongly contrasting textural stratification	40-60	---	High	---	High	Low
UnnA:							
Urban land.							
Westland---------	Strongly contrasting textural stratification	40-60	---	High	---	High	Low
Usl:							
Udorthents, rubbish.							
W:							
Water.							
WaaAV:							
Wakeland---------	---	---	---	High	---	Moderate	Low
WaaAW:							
Wakeland---------	---	---	---	High	---	Moderate	Low
WacAW:							
Wakeland---------	---	---	---	High	---	Moderate	Low
Birds----------	---	---	---	High	---	High	Moderate

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Soil slippage potential	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In					
WbiAW:							
Wilbur----------	---	---	---	High	---	Moderate	Low
Wakeland---------	---	---	---	High	---	Moderate	Low
WdlC2:							
Wawaka----------	---	---	---	Moderate	Low	Moderate	Low
WdrB2:							
Wawaka----------	---	---	---	High	---	Moderate	Low
WokAW:							
Wilbur----------	---	---	---	High	---	Moderate	Low
WolAV:							
Wilhite----------	---	---	---	High	---	High	Moderate
WprAV:							
Wirt----------	---	---	---	Moderate	---	Low	Moderate
WprAW:							
Wirt----------	---	---	---	Moderate	---	Low	Moderate
WqlA:							
Westland---------	Strongly contrasting textural stratification	40-60	---	High	---	High	Low
WqlAQ:							
Westland---------	Strongly contrasting textural stratification	40-60	---	High	---	High	Low
WsuA:							
Whitaker---------	---	---	---	High	---	High	Moderate
WsyAQ:							
Whitaker---------	---	---	---	High	---	High	Moderate
WufB2:							
Williamstown-----	Dense material	20-40	---	Moderate	---	High	Moderate
XabB2:							
Xenia----------	Dense material	40-60	---	High	---	High	Moderate
XfuB2:							
Miami----------	Dense material	24-40	---	Moderate	---	Moderate	Moderate
Rainsville-------	Dense material	45-60	---	Moderate	---	Moderate	Moderate
XrbC2:							
Miami----------	Dense material	24-40	---	Moderate	Low	Moderate	Low
Rainsville-------	Dense material	45-60	---	Moderate	Low	Moderate	Moderate

Table 20.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Soil slippage potential	Risk of corrosion	
	Kind	Depth to top	Hardness			Uncoated steel	Concrete
		In					
XrkD2:							
Miami	Dense material	24-40	---	Moderate	Medium	Moderate	Low
Kendallville	---	---	---	Moderate	Medium	Moderate	Moderate
ZboA:							
Zipp	---	---	---	High	---	High	Low

Table 21.--Classification of the Soils

(An asterisk in the first column indicates that some or all map units of this soil are 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
Alvin	Coarse-loamy, mixed, superactive, mesic Typic Hapludalfs
Avonburg	Fine-silty, mixed, active, mesic Aeric Fragic Glossaqualfs
Ayrshire	Fine-loamy, mixed, active, mesic Aeric Endoaqualfs
*Bartle	Fine-silty, mixed, active, mesic Aeric Fragiaqualfs
Beanblossom	Loamy-skeletal, mixed, active, mesic Fluventic Dystrudepts
Bellcreek	Fine, smectitic, mesic Fluvaquentic Endoaquolls
Birds	Fine-silty, mixed, superactive, nonacid, mesic Typic Fluvaquents
*Blocher	Fine-silty, mixed, active, mesic Oxyaquic Hapludalfs
Bloomfield	Sandy, mixed, mesic Lamellic Hapludalfs
Bonnell	Fine, mixed, active, mesic Typic Hapludalfs
Bonnie	Fine-silty, mixed, active, acid, mesic Typic Fluvaquents
Brownstown	Loamy-skeletal, mixed, active, mesic Typic Dystrudepts
Casco	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Inceptic Hapludalfs
Chetwynd	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Cincinnati	Fine-silty, mixed, active, mesic Oxyaquic Fragiudalfs
Cliftycreek	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Cobbsfork	Fine-silty, mixed, active, mesic Fragic Glossaqualfs
Cohoctah	Coarse-loamy, mixed, active, mesic Fluvaquentic Endoaquolls
Coolville	Fine, mixed, active, mesic Aquultic Hapludalfs
Crosby	Fine, mixed, active, mesic Aeric Epiaqualfs
Cyclone	Fine-silty, mixed, superactive, mesic Typic Argiaquolls
Deam	Fine, illitic, mesic Ultic Hapludalfs
Eel	Fine-loamy, mixed, superactive, mesic Fluvaquentic Eutrudepts
Elkinsville	Fine-silty, mixed, active, mesic Ultic Hapludalfs
Fincastle	Fine-silty, mixed, superactive, mesic Aeric Epiaqualfs
Fox	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Hapludalfs
Genesee	Fine-loamy, mixed, superactive, mesic Fluventic Eutrudepts
Gilwood	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Gnawbone	Fine-silty, mixed, semiactive, mesic Typic Hapludults
Haymond	Coarse-silty, mixed, superactive, mesic Dystric Fluventic Eutrudepts
Hickory	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Holton	Coarse-loamy, mixed, active, nonacid, mesic Aeric Endoaquepts
*Kendallville	Fine-loamy, mixed, superactive, mesic Typic Hapludalfs
Kurtz	Fine-silty, mixed, semiactive, mesic Ultic Hapludalfs
Lauer	Fine-silty, mixed, active, mesic Aeric Epiaqualfs
Martinsville	Fine-loamy, mixed, active, mesic Typic Hapludalfs
McGary	Fine, mixed, active, mesic Aeric Epiaqualfs
*Medora	Fine-silty, mixed, active, mesic Typic Fragiudults
Medway	Fine-loamy, mixed, superactive, mesic Fluvaquentic Hapludolls
Miami	Fine-loamy, mixed, active, mesic Oxyaquic Hapludalfs
*Milton	Fine, mixed, active, mesic Typic Hapludalfs
Nabb	Fine-silty, mixed, active, mesic Aquic Fragiudalfs
*Nineveh	Fine-loamy over sandy or sandy-skeletal, mixed, active, mesic Typic Argiudolls
Ockley	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Oldenburg	Coarse-loamy, mixed, active, mesic Fluvaquentic Eutrudepts
Orthents	Orthents
*Pekin	Fine-silty, mixed, active, mesic Aquic Fragiudults
Peoga	Fine-silty, mixed, superactive, mesic Fragic Epiaqualfs
Pike	Fine-silty, mixed, active, mesic Ultic Hapludalfs
Piopolis	Fine-silty, mixed, active, acid, mesic Fluvaquentic Endoaquepts
Princeton	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Rainsville	Fine-loamy, mixed, active, mesic Oxyaquic Hapludalfs
Rarden	Fine, mixed, active, mesic Aquultic Hapludalfs
Rensselaer	Fine-loamy, mixed, superactive, mesic Typic Argiaquolls
Rodman	Sandy-skeletal, mixed, mesic Typic Hapludolls
Rossburg	Fine-loamy, mixed, superactive, mesic Fluventic Hapludolls
Russell	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Senachwine	Fine-loamy, mixed, active, mesic Typic Hapludalfs

Table 21.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Shircliff	Fine, mixed, active, mesic Oxyaquic Hapludalfs
Shoals	Fine-loamy, mixed, superactive, nonacid, mesic Fluventic Endoaquepts
Sleeth	Fine-loamy, mixed, active, mesic Aeric Endoaqualfs
Sloan	Fine-loamy, mixed, superactive, mesic Fluvaquentic Endoaquolls
*Spickert	Fine-silty, mixed, active, mesic Typic Fragiudults
*Steff	Fine-silty, mixed, active, mesic Fluvaquentic Dystrudepts
Stendal	Fine-silty, mixed, active, acid, mesic Fluventic Endoaquepts
Stonehead	Fine-silty, mixed, active, mesic Oxyaquic Hapludalfs
Stonelick	Coarse-loamy, mixed, superactive, calcareous, mesic Typic Udifluvents
Treaty	Fine-silty, mixed, superactive, mesic Typic Argiaquolls
Udorthents, loamy	Udorthents
Udorthents, rubbish	Udorthents
Udorthents, sandy	Udorthents
Wakeland	Coarse-silty, mixed, superactive, nonacid, mesic Aeric Fluvaquents
Wawaka	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Wellrock	Fine-silty, mixed, active, mesic Ultic Hapludalfs
Westland	Fine-loamy, mixed, superactive, mesic Typic Argiaquolls
Whitaker	Fine-loamy, mixed, active, mesic Aeric Endoaqualfs
Wilbur	Coarse-silty, mixed, superactive, mesic Fluvaquentic Eutrudepts
Wilhite	Fine, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts
Williamstown	Fine-loamy, mixed, active, mesic Aquic Hapludalfs
Wirt	Coarse-loamy, mixed, superactive, mesic Dystric Fluventic Eutrudepts
Wrays	Fine-silty, mixed, active, mesic Typic Hapludults
Xenia	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
Zipp	Fine, mixed, active, nonacid, mesic Typic Endoaquepts