United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Ohio Department of Natural Resources, Division of Soil and Water Conservation; Ohio Agricultural Research and Development Center; Ohio State University Extension; Richland Soil and Water Conservation District; and Richland County Commissioners

Soil Survey of Richland County, Ohio

Supplement
June 2004

How to use this survey

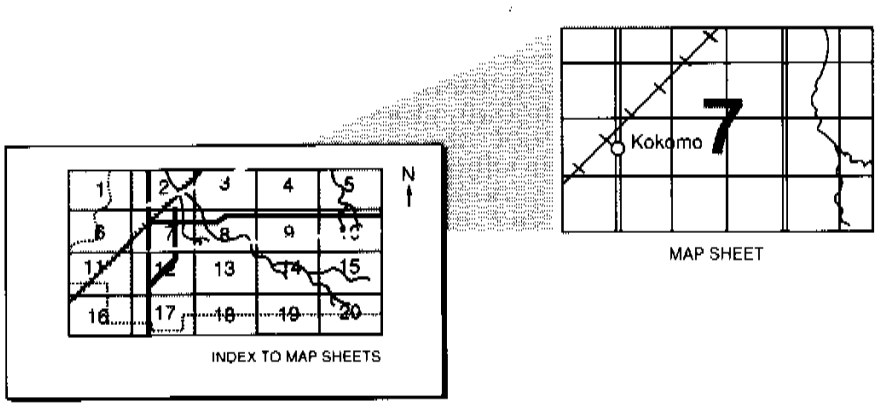
General Soil Map

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

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** of this survey for a general description of the soils in your area.

Detailed Soil Maps

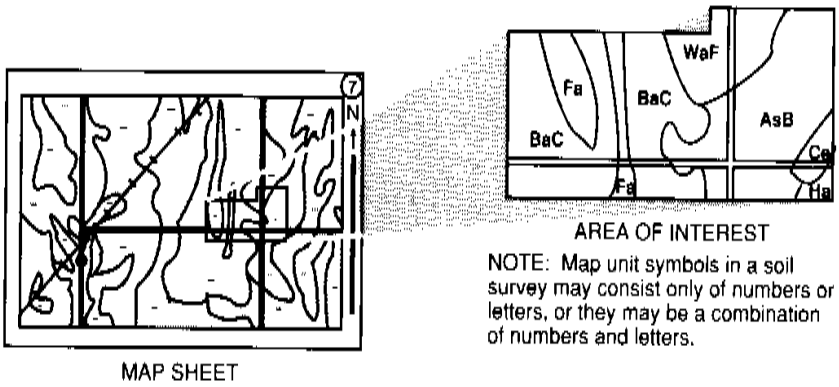
The detailed soil maps which accompany this publication are useful in planning the use and management of small areas.



To find information about your area of interest, locate that area on the **Index to Map Sheets**, which accompanies the soil maps. Note the number of the map sheet, and select 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** also shows which table has data on a specific land use for each detailed soil map unit. See **Contents** for sections of this publication that may address your specific needs.



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

Major fieldwork for this soil survey was completed in the period 1966-70. Soil names and descriptions were approved in 1971. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1970. The 1975 survey was made cooperatively by the Natural Resources Conservation Service, Ohio Department of Natural Resources, Division of Soil and Water Conservation, Ohio Agricultural Research and Development Center, the Ohio State University Extension, the Richland Soil and Water Conservation District and the Richland County Commissioners. This survey is part of the technical assistance furnished to the Richland Soil and Water Conservation District.

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

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Cover: View from Mount Jeez toward Malabar Farm. Soils in the foreground are Lordstown and Loudonville, and soils in the valley are Wheeling and Chili.

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Preface

This soil survey contains information that affects land use planning in Richland County. 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 homebuyers 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. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Ohio State University Extension.

Soil Survey of Richland County, Ohio

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Revised by S.A. Miller, the Ohio Department of Natural Resources, Division of Soil and Water Conservation. Technical advisors, R.M. Gehring and J.A. Glanville, Natural Resources Conservation Service, United States Department of Agriculture

RICHLAND COUNTY is in the north-central part of Ohio. It has a total area of 320,198 acres, or 500 square miles.

Richland County is near the southern boundary of the Wisconsinan Glaciation. Most of its soils formed in glacial deposits. These deposits are thickest in the northern part of the county and thin out toward the south, where, in the southeastern part, they are lacking on some of the higher hills.

General Nature of the County

This section contains some information of historical interest about the county; some statistics about farming and other land use; and information about industry, community facilities, physiography, and climate.

The area that is now Richland County was originally inhabited by several tribes of Indians (5). Among these tribes were the Wyandotte and Huron in the north, the Ottawa and Delaware in the southeast, and the Shawnee in the southwest.

Early settlers came to the county from Pennsylvania, New York, New England, Virginia, and Maryland. Mansfield was settled about 1808.

This county was first a part of Wayne County, then a part of Fairfield County. Richland County was formed by the Ohio legislature in 1813, and assumed its present boundaries in 1849 (4). It was named for the fertility of its land. The population was 9,179 in 1820, 30,879 in 1850, 44,289 in 1900, and 129,997 in 1970.

Climate

Prepared by the Natural Resources Conservation Service National Water and Climate Center, Portland, Oregon.

Climate Tables are created from climate station Mansfield WSO AP, Ohio.

Thunderstorm days, relative humidity, percent sunshine, and wind information are estimated from First Order station Mansfield WSO AP, Ohio.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Mansfield 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 27.9 degrees F and the average daily minimum temperature is 20.5 degrees. The lowest temperature on record, which occurred at Mansfield on January 19, 1994, was -22 degrees. In summer, the average temperature is 70.0 degrees and the average daily maximum temperature is 79.9 degrees. The highest temperature, which occurred at Mansfield on June 25, 1988, was 101 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 43.26 inches. Of this, about 23.88 inches, or 55 percent, usually falls in May through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 3.85 inches at Mansfield on August 17, 1972. Thunderstorms occur on about 36 days each year, and most occur between May and August.

The average seasonal snowfall is 44.3 inches. The greatest snow depth at any one time during the period of record was 22 inches recorded on January 30, 1978. On average, 45 days per year have at least 1 inch of snow on the ground. The

heaviest 1-day snowfall on record was 12.3 inches recorded on December 1, 1974.

The average relative humidity in mid-afternoon is about 75 percent in December, and about 55 percent in July. Humidity is higher at night, and the average at dawn is about 80-85 percent all year. The sun shines 60 percent of the time in summer and 36 percent in winter. The prevailing wind is from the south, although northwest winds are nearly as common in most months. Average wind speed is highest, around 10.5 miles per hour, in March.

Farming

According to the U.S. Census of Agriculture (NRI data), there were 908 farms in Richland County in 1997. The average size of farms was 171 acres, including the many smaller farms worked part time, as well as the much larger commercial farms.

Dairy farming predominates in the southern part of the county, but a few dairy farms are in other areas.

Cash grain and general farming predominate in the northern and western parts of the county. Corn, soybeans, and wheat are the main crops. Soybeans and some of the corn are sold for cash. The rest of the corn and most of the small grain are fed to beef cattle and hogs.

Farmland is being converted to other uses in several areas of the county. The area around Mansfield is being used for residential and industrial purposes. In the southeastern part of the county, most of the land taken out of farming is being used for recreation, wildlife habitat, or forestry.

Physiography, Relief, and Drainage

Richland County is a county of contrasts. The northern part is a till plain that has low to moderate relief. Glaciers leveled the bedrock hills and filled the valleys in this part of the county. The soils formed in material laid down by the glaciers or in material deposited in shallow lakes that existed after the glaciers melted. Slopes are gentle in this part of the county, and many areas require artificial drainage for crops.

Farther south the glaciers thinned out, and their leveling effect is less pronounced. Compared with the soils in the northern part of the county, the soils contain more material weathered from the underlying bedrock and less transported glacial material. The slope is steeper, and the depth to rock is shallower. Some hills in the southern part of the county show little evidence of glaciation. The soils are better drained, and erosion control, rather than drainage, is the chief management concern. Valleys in the southern part of the county received a large volume of glacial melt water, and extensive gravel deposits were laid down by this swiftly flowing water.

The highest elevation, 1,505 feet, is on a hilltop southwest of Mansfield in Springfield Township. The lowest point, about 980 feet, is where the Black Fork leaves the county.

Most of the county is drained by the Black Fork, Clear Fork, and Muddy Fork of the Mohican River and their tributaries. The Mohican River is part of the Muskinghum watershed, and water draining into it eventually reaches the Gulf of Mexico via the Ohio River and the Mississippi River. A strip 1 to 3 miles wide along the northern edge of the county drains northward through the Vermillion River and the Huron River to Lake Erie. Water draining this way goes to the Atlantic via the St. Lawrence River.

The drainage afforded by natural streams is adequate in much of the county, but a network of artificial drainageways is needed in some of the more nearly level areas, particularly in the northwestern part of the county.

How This Survey Was Made

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

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

Figure 1. Canfield and Wooster soils are in the foreground. Steeper areas are usually wooded due to reduced productivity, limited access, and the erosion hazard.

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.

General Soil Map Units

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

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

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

Some soil boundaries and soil names in this survey area do not fully match those in adjacent survey areas that were published at an earlier date. Differences are the result of changes and refinements in soil series concepts, updated soil taxonomy, and slightly different map unit composition in survey areas. The map also shows the location of the larger organic (muck) soil areas in the county. These areas are indicated on the general soil map by a special symbol.

General Soil Map

The general soil map at the end of this publication shows, in color, the soil associations in Richland County. A soil association is a landscape that has a distinctive pattern of soils. It normally consists of one or more major soils and at least one minor soil, and it is named for the major soils. The soils in one association may occur in another, but in a different pattern.

A map showing soil associations is useful to people who want a general idea of the soils in a county, who want to compare different parts of a county, or who want to know the location of large tracts that are suitable for a certain kind of land use. Such a map is a useful general guide in managing a watershed, a wooded tract, or a wildlife area, or in planning engineering works, recreational facilities, and community developments. It is not a suitable map for planning the management of a farm or field or for selecting the exact location of a road, building, or similar structure, because the soils in any one association ordinarily differ in slope, depth, stoniness, drainage, and other characteristics that affect their management.

The eleven soil associations in Richland County are discussed in the following pages. It should be noted that the soil associations shown on the general soil map of this county do not exactly match those on the general soil maps of the adjacent counties published soil surveys. The major soils are similar or the same, but they occur in a slightly different pattern.

Somewhat Poorly Drained to Well Drained Soils on Flood Plains, Terraces, and Outwash Deposits

These soils are in and along the valleys of the major streams throughout the county and in hummocky areas on uplands. Slopes generally are short and irregular. The soils have a medium-textured to moderately coarse textured subsoil. The soils on terraces and outwash deposits are underlain by stratified sand and gravel. About half the acreage of soils in these associations is used for cash grain crops or for general farming. These associations make up about 11 percent of the county.

1. Shoals-Chili-Wheeling association

Deep, nearly level to moderately steep, somewhat poorly drained and well drained soils that have a medium textured to moderately coarse textured subsoil; on flood plains, terraces, and outwash deposits.

This association is in and along the valleys of major streams throughout the county. The nearly level soils are on floodplains, and the gently sloping to moderately steep soils are on stream terraces. The terraces are broken where tributaries enter the main stream valley or where rock hills are close to the stream channel.

This association makes up about 10 percent of the county. It is about 30 percent Shoals soils, 16 percent Chili soils, 14 percent Wheeling soils, and 40 percent minor soils.

Shoals soils are nearly level and somewhat poorly drained. They formed in silty or loamy stream-deposited sediment. They are on flood plains. In the wetter stream valleys, these soils generally occupy high positions on the landscape,

but in the drier stream valleys, they are in low spots.

Chili soils are sloping to moderately steep and are well drained. They formed in outwash deposits and are underlain by sand and gravel. They are mainly on terraces, kames, and eskers.

Wheeling soils are dominantly nearly level or gently sloping and well drained. They formed in medium textured silty deposits underlain by sand and gravel. These soils are on terraces. They have less gravel and more silt in the surface layer and in the subsoil than Chili soils.

Minor soils in this association include the Lobdell and Sloan soils on flood plains and the Glenford, Fitchville, Luray, and Bogart soils on terraces. Included also in this association are some small areas of organic (muck) soils, shown by swamp symbols on the general soil map. Each symbol represents about 80 acres. The Carlisle and Linwood soils occupy most of these areas.

About half of the association is farmed. Corn, soybeans, wheat, and hay are the main crops. About 15 percent of the acreage is used for nonfarm purposes. The remaining 35 percent is used mainly for wildlife habitat.

Susceptibility to flooding and somewhat poor natural drainage are the major limitations to use of Shoals soils. The Wheeling and Chili soils are not generally subject to flooding. If protected from flooding and adequately drained, Shoals soils are well suited to crops. The Chili and Wheeling soils that are nearly level or gently sloping are also well suited to crops, but in dry years droughtiness is a limitation.

Susceptibility to flooding is a severe limitation to use of Shoals soils for most nonfarm purposes. Where slope is not a limitation, the Chili and Wheeling soils have only slight limitations to use for most nonfarm purposes. The sand and gravel underlying these soils are commonly suitable for commercial use.

2. Belmore-Haney association

Deep, gently sloping to moderately steep, well drained and moderately well drained soils that have a medium textured to moderately coarse textured subsoil; formed in outwash deposits mainly on kames and eskers

This association of gravelly soils occupies three areas in the northwestern part of the county. These areas are characterized by conical hills, or kames; narrow, winding ridges, or eskers; and stream terraces that commonly surround closed depressional pockets. Slopes are short and irregular.

This association makes up about 1 percent of the county. About 50 percent of it is Belmore soils, 15 percent is Haney soils, and 35 percent is minor soils.

Belmore and Haney soils formed in deposits of poorly sorted sand and gravel that contain a varying amount of silt and clay. Belmore soils are well drained. They are gently sloping to moderately steep and are generally on the highest and steepest parts of the landscape. Haney soils are moderately well drained and are nearly level to gently sloping.

Carlisle, Linwood, Luray, Digby, Fitchville, Glenford, Alexandria, Cardington, Bennington, and Pewamo are minor soils in this association. Carlisle and Linwood are organic (muck) soils. They are in the closed depressional pockets that are designated on the general soil map by special swamp symbols.

About 70 percent of this association is farmed, and the rest is idle. Because Belmore and Haney soils are gravelly, they are droughty in dry seasons. Sloping areas are subject to erosion. These soils are moderately well suited to crops.

Except where slope is a limitation, Belmore and Haney soils are suitable for many nonfarm purposes. Where absorption fields are concentrated on these soils, however, there is a hazard of groundwater pollution by seepage of septic effluent through the sandy and gravelly underlying material.

Very Poorly Drained to Somewhat Poorly Drained Soils on Till Plains and Lake Plains

These soils are in the northern part of the county. They are nearly level to gently sloping and occupy broad flats intermingled with some low knolls and ridges. They have a medium textured to moderately fine textured subsoil. If adequately drained, these soils are well suited to farming. Most of the acreage is farmed and used mainly for cash grain crops or general farming. The soils in these associations make up about 12 percent of the county.

3. Fitchville-Luray-Bennington association

Deep, nearly level to gently sloping, somewhat poorly drained and very poorly drained soils that have a medium textured to moderately fine textured subsoil; formed in lacustrine deposits and glacial till

This association consists of three areas in the northwestern part of the county. These areas are characterized by broad flats interspersed with closed depressions and isolated, gently sloping knolls and ridges.

This association occupies about 3 percent of the county. It is about 35 percent Fitchville soils,

30 percent Luray soils, 20 percent Bennington soils, and 15 percent minor soils.

Fitchville soils are on knolls, ridges, and higher flats. These soils formed in silty material deposited in shallow postglacial lakes. They are acid and somewhat poorly drained.

Luray soils are in the lower positions and closed depressions. These soils formed in silty material from shallow postglacial lakes. They are acid to nonacid and are very poorly drained. Some areas that are adjacent to Marsh Run are subject to flooding and ponding.

Bennington soils are on knolls, ridges, and higher flats. These soils formed in silty clay loam or clay loam glacial till that was originally limy. They are somewhat poorly drained and relatively high in content of clay.

Minor soils in this association are of the Glenford, Sebring, Cardington, Tiro, and Pewamo series.

Most of this association is used for cash grain crops and general farming. A few areas are idle. A few areas that are wet or that are subject to flooding are used for timber production.

Wetness is the dominant limitation to use of the soils in this association. Surface crusting on Bennington soils and a slight hazard of erosion on the knolls occupied by gently sloping Fitchville and Bennington soils are additional limitations, particularly if these soils are used for farming. The major soils generally can be drained, but adequate tile outlets for depressions are difficult to establish and maintain. If artificial drainage is established, soil fertility is improved, and soil-conserving management is practiced, the soils of this association are well suited to farming.

4. Pewamo-Bennington association

Deep, nearly level to gently sloping, very poorly drained and somewhat poorly drained soils that have a moderately fine textured subsoil; formed in glacial till

This association is in three areas in the northern part of the county. These areas are characterized by low knolls and ridges separated by depressions and broad flats. If plowed, the soils of this association present a striking pattern of light and dark colors.

This association makes up about 9 percent of the county. It is about 45 percent Pewamo soils, 30 percent Bennington soils, and 25 percent minor soils.

Pewamo and Bennington soils formed in silty clay loam or clay loam glacial till that was originally limy. These soils have a moderately fine textured subsoil. The dark colored, very poorly drained Pewamo soils are in depressions and on broad flats. Bennington soils are on low knolls and ridges. They are light colored and somewhat poorly drained.

Among the minor soils in this association are the Condit, Luray, Fitchville, Glenford, Shoals, and Lobdell soils. A few areas of sloping Cardington soils are also in this association.

Most of this association is used for cash grain crops or for general farming. Undrained areas of Pewamo soils are commonly used for permanent pasture or trees. A small part of the association is being held for non-farm purposes and is idle.

Wetness is the major limitation to use of these soils. Surface crusting is also a limitation in eroded areas of Bennington soils. The water table is near the surface of Pewamo soils during the wettest part of the year, and ponding is common. Surface and subsurface drains are commonly used to remove excess water from Pewamo and Bennington soils, but adequate tile outlets are difficult to establish in some areas. If these soils are artificially drained, fertility is improved, and conservation management is practiced, this association is moderately well suited to crops.

Somewhat Poorly Drained to Moderately Well Drained Soils on Till Plains

Most areas of these soils are in the central and northern parts of the county. This association is characterized by gently sloping soils on broad hilltops, knolls, and ridges; a few nearly level soils in depressions; and a few sloping to moderately steep soils on hillsides. These soils have a medium textured to moderately fine textured subsoil. They are generally well suited or moderately well suited to farming and are used mainly for cash grain crops, dairying, and general farming. These associations make up about 31 percent of the county.

5. Rittman-Wadsworth association

Deep, nearly level to moderately steep, moderately well drained and somewhat poorly drained soils that have a moderately fine textured subsoil with a fragipan; formed in glacial till

This association is mainly in the central part of the county. It consists mainly of gently sloping soils on broad hilltops. A few, however, are in depressions, and a few are in deeply entrenched valleys.

This association makes up about 10 percent of the county. It is about 65 percent Rittman soils, 17 percent Wadsworth soils, and 18 percent minor soils.

Rittman and Wadsworth soils formed in moderately fine textured, acid glacial till. These

soils have a very dense, compact, brittle layer, or a fragipan, in the lower part of the subsoil that restricts root penetration and permeability. Rittman soils are gently sloping and moderately well drained. They are on broad hilltops and on hillsides along streams. Wadsworth soils are nearly level to gently sloping and are somewhat poorly drained. They are in depressions and flat areas surrounded by larger areas of Rittman soils.

Soils of minor extent in this association are in the Wooster, Wheeling, Chili, Bogart, Fitchville, Shoals, and Lobdell series.

A hazard of erosion on sloping areas of Rittman soils and wetness on Wadsworth soils are the major limitations. Rittman soils generally have adequate natural drainage. The soils of this association are moderately well suited to crops if fertility is improved and conservation practices are followed, including erosion control on Rittman soils and artificial drainage of Wadsworth soils.

6. Bennington-Cardington association

Deep, nearly level to gently sloping, somewhat poorly drained and moderately well drained soils that have a moderately fine textured subsoil; formed in glacial till

This association occurs extensively in the northern part of the county. It has an undulating upland landscape of low knolls and ridges that are broken in places by a few higher hills. Slopes are short and irregular.

This association makes up about 21 percent of the county. It is about 60 percent Bennington soils, 30 percent Cardington soils, and 10 percent minor soils.

Bennington and Cardington soils formed in limy, silty clay loam or clay loam glacial till and have a moderately fine textured subsoil. Bennington soils are nearly level and gently sloping and are somewhat poorly drained. They are on the low knolls and ridges and generally are in areas away from the major stream valleys. Cardington soils are gently sloping to sloping and are moderately well drained. They are on the higher hills and side slopes of major or stream valleys.

Minor soils in this association are in the Alexandria, Condit, Pewamo, Shoals, and Holly series. Also among the minor soils are some small areas of organic (muck) soils that are shown by a special swamp symbol on the general soil map. Each symbol represents an area of about 80 acres. The organic soils are in depressions that lack natural drainage outlets. Carlisle and Linwood soils occupy most of these areas.

Most of this association is used mainly for cash grain, dairy, and general farming. A small acreage is idle or is being held for nonfarm purposes.

Somewhat poor natural drainage is the major limitation to use of Bennington soils, but they generally can be artificially drained. Additional limitations are the hazard of erosion on sloping areas and surface crusting on eroded areas of Bennington soils, especially if they are used for farming. Bennington and Cardington soils are well suited to crops, however, if soil fertility is improved and management practices include artificial drainage of Bennington soils and control of erosion on Cardington soils.

Moderately Well Drained to Well Drained Soils on Till Plains

These soils are mainly in the southern part of the county. A few small areas are in the northern part. The soils are gently sloping to sloping on ridgetops or on hilltops and moderately steep to very steep on hillsides. They have a medium textured to moderately fine textured subsoil. About 20 percent of the area of these soils is underlain by sandstone bedrock at a depth of 2 to 3 feet. The gently sloping and sloping soils are moderately well suited to farming and are used mainly for dairying and general farming. These associations make up about 46 percent of the county.

7. Wooster-Loudonville association

Deep and moderately deep, gently sloping to very steep, well-drained soils that have a medium textured to moderately fine textured subsoil; formed in glacial till

This soil association is in three areas in the southern part of the county. It consists of gently sloping to moderately sloping soils on ridgetops and of steep to very steep soils on hillsides. Slopes are long and uniform. The soils on hillsides are underlain by sandstone bedrock that is capped by a mantle of glacial till.

This association makes up about 2 percent of the county. It is about 45 percent Wooster soils, 25 percent Loudonville soils, and 30 percent minor soils.

Wooster and Loudonville soils are well drained and are loamy in texture. Wooster soils formed in acid, loamy glacial till that is underlain by sandstone bedrock at a depth of more than 40 inches. They are mainly on ridgetops and in the lower areas of valley walls. They have a compact, brittle layer, or fragipan, in the lower part of their subsoil that somewhat restricts root penetration and permeability. Loudonville soils are underlain

by sandstone bedrock at a depth of 20 to 40 inches. They occupy the middle and upper parts of valley walls and extend on to the ridgetops in many places. Wooster and Loudonville soils occur in an intricate pattern in some areas.

Minor soils in this association are in the Canfield, Ravenna, Lordstown, Berks, and Schaffenaker series.

About half of this association is farmed, and dairy farming is the main enterprise. Crops are grown on the less strongly sloping areas. Some of the steep areas are used for permanent pasture and trees. The rest of the association is idle, but some areas probably will be used for urban development. Other areas are too steep for most uses.

Shallowness to bedrock and steepness of slope are the major limitations to the use of soils in this association. Erosion is a hazard, especially on cultivated areas. The soils are moderately well suited to crops if soil fertility is improved and conservation is practiced.

The limitations for nonfarm uses of this association range from slight to severe. They are slight on the gently sloping soils that are deep over bedrock and severe on the steep soils that are moderately deep over bedrock.

8. Hanover-Titusville-Loudonville association

Deep and moderately deep, gently sloping to steep, well drained and moderately well drained soils that have a medium-textured to moderately fine textured subsoil; formed in glacial till

This association occurs in three areas in the southern part of the county. It is on uplands. The soils are gently sloping to steep and are underlain by sandstone bedrock at a depth of 2 to 6 feet. These soils formed in glacial till of Illinoian age over the bedrock.

This association makes up about 4 percent of the county. It is about 45 percent Hanover soils, 20 percent Titusville soils, 20 percent Loudonville soils, and 15 percent minor soils.

Hanover and Titusville soils are loamy and acid and are more than 40 inches deep over bedrock. These soils have a compact, brittle layer, or fragipan, in the lower part of their subsoil that restricts root penetration and permeability. Hanover soils are gently sloping to steep and are well drained. They are on broad hilltops just above areas of moderately steep to very steep soils. Titusville soils are gently sloping and moderately well drained. They are mainly in strips between the stream flood plains and the steeper valley walls. Loudonville soils also are acid and loamy, but they are underlain by sandstone bedrock at a depth of 20 to 40 inches. These soils are gently sloping to steep and are on hillsides.

Minor soils in this association are in the Shoals, Latham, Schaffenaker, Lordstown, and Berks series.

About 55 percent of this association is idle. The rest is used for farming, mainly general farming.

Steepness of slope and shallowness to bedrock are the main limitations of this association. Temporary wetness is a limitation of Titusville soils in a few places, particularly areas in the valleys. Some of the shallow areas of Loudonville soils are droughty. The gently sloping, uneroded areas of this association are moderately well suited to crops if soil fertility is improved and the soils are otherwise well managed.

The limitations for nonfarm use depend largely on steepness of slope and depth to bedrock.

9. Lordstown-Loudonville association

Moderately deep, gently sloping to steep, well drained soils that have a medium-textured to moderately fine textured subsoil; formed in glacial till and material weathered from sandstone bedrock

This association is in the southern and southeastern parts of the county. It has a landscape of narrow, moderately sloping ridgetops separated by deeply entrenched valleys that have steep to very steep side slopes. The hills are of sandstone bedrock covered by a thin deposit of glacial till. Slopes are long and uniform.

This association makes up about 9 percent of the county. It is about 40 percent Lordstown soils, 35 percent Loudonville soils, and about 25 percent minor soils.

In many areas Lordstown and Loudonville soils do not occur in a set pattern. These soils are gently sloping to steep, are well drained, and are acid. They are underlain by sandstone bedrock at a depth of 20 to 40 inches. Lordstown soils are silty to loamy in texture. These soils formed in material weathered from sandstone bedrock. Loudonville soils are loamy. They formed in thin deposits of glacial till.

Minor soils in this association are in the Wooster, Canfield, Hanover, Titusville, Latham, and Berks series.

About 60 percent of this association is farmland. Most of the less strongly sloping areas are used for crops and improved pasture. Orchards and woodlots are managed on the steeper areas. Where the areas are steep and rocky, the use of equipment is difficult. The remaining 40 percent of the association is idle, and much of it is too steep and stony for farming

and for nonfarm uses. Shallowness to bedrock is also a limitation for nonfarm uses.

10. Wooster-Canfield association

Deep, nearly level to very steep, well drained and moderately well drained soils that have a medium-textured subsoil with a fragipan; formed in glacial till

This association occurs mainly in the south-central part of the county. It is on uplands and is characterized by gently sloping to moderately sloping soils on hilltops and moderately steep to very steep soils on hillsides that form the sides of narrow stream valleys. Slopes generally are long.

This association makes up about 25 percent of the county. It is about 40 percent Wooster soils, 25 percent Canfield soils, and 35 percent minor soils.

The loamy, well drained Wooster soils are gently sloping to very steep. They are on the hillsides and on the more convex hilltops. The moderately well drained Canfield soils are nearly level to sloping and are on the more concave hilltops. Wooster and Canfield soils formed in acid, loamy glacial till and have a compact, brittle layer, or fragipan, in the lower part of the subsoil that restricts root growth and permeability. The fragipan in Canfield soils, however, is more restrictive than that in Wooster soils.

Soils that occur to a minor extent in this association are Ravenna, Loudonville, Lordstown, Shoals, and Schaffenaker soils. Also included in this association are some small areas of organic (muck) soils. These areas are shown on the general soil map by a special symbol for swamp. Each symbol represents about 80 acres. These soils are in depressions that lack natural drainage outlets. Carlisle and Linwood soils are in most of these areas.

About half of this association is farmed, and 30 percent is used for residential and commercial purposes. The rest is idle.

A moderate to severe hazard of erosion and the steep slopes of Wooster soils in some places are the major limitations of this association. In areas that have been farmed, erosion has damaged soil tilth and reduced productivity, and the depth to the fragipan. If erosion is controlled and a high level of fertility is maintained the soils of this association are moderately well suited to farming. Although natural drainage is generally adequate for farming, a few seep spots and springs particularly where slopes are steep, produce local wetness.

Susceptibility to erosion, especially on the steep soils and restricted permeability are limitations to some nonfarm uses.

11. Cardington-Alexandria association

Deep, gently sloping to very steep, moderately well drained and well drained soils that have a moderately fine textured subsoil; formed in glacial till

This association occurs mainly along valley walls adjacent to the Black Fork and its major tributaries in the northern part of the county. It is on uplands and is characterized by gently sloping to moderately sloping soils on hilltops and moderately steep to very steep soils on hillsides.

This association makes up about 6 percent of the county. It is about 50 percent Cardington soils, 30 percent Alexandria soils, and 20 percent minor soils.

Cardington and Alexandria soils formed in clay loam or silty clay loam that was originally limy. This subsoil is relatively high in clay content. Cardington soils are moderately well drained and are gently sloping to moderately sloping. These soils are on hilltops. Alexandria soils are well drained and moderately steep to very steep, and they are on stream valley walls and hillsides. Layers of gravel are below a depth of 3 feet in some areas of Alexandria soils.

Among the less extensive soils in the association are the somewhat poorly drained, light-colored Bennington soils and the very poorly drained, dark colored Pewamo soils. Also included are Carlisle and Linwood soils in a few basin like depressions.

About 40 percent of this association is used for farming. The gently sloping areas are generally used for crops, and the steeper areas for permanent pasture and trees. Residential areas along State, county, and township roads occupy 30 percent of the association. The rest is idle.

Steep slopes in places severely limit the use of these soils for many purposes. A moderate to severe erosion hazard is an additional limitation, particularly on the steeper Alexandria soils. Although natural drainage is generally adequate, a few wet spots on Cardington soils require artificial drainage in places. If soil fertility is improved and erosion is controlled, the soils of this association are well suited to crops. Except for steepness of slope and a few wet spots, these soils have few limitations for home sites. The moderately slow permeability, however, is a limitation to some nonfarm uses.

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. 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.

The detailed map unit descriptions list management statements for most major uses of the soils: cropland, pasture, woodland, building sites, septic tank absorption fields, and local roads and streets. The management statements listed for a particular map unit address the most limiting features of that soil for a certain use. Some management statements suggest specific measures that may help alleviate the effects of these limiting soil features. The mention of such management measures is not a recommendation, especially where current laws or programs may prohibit an activity, such as installation of drainage. Even the best management practices cannot overcome some limitations of the soil.

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

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, *Bennington silt loam, 2 to 6 percent slopes* is a phase of the Bennington series.

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

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. CoD-Chili and Conotton soils, 12 to 18 percent slopes is an undifferentiated group in this survey area.

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

Table 4 (p. 321)gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

AcD2—Alexandria silty clay loam, 12 to 18 percent slopes, eroded

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Alexandria and similar components: 80 percent

Contrasting Components
Bennington soils: 5 percent
Cardington soils: 5 percent
Condit soils: 5 percent
Tuscola soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 7.4 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 24 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 4.0 to 6.0 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 2.0 percent
Parent material: Till
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silty clay loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

- Burning may destroy organic matter.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. Special design of structures is needed to prevent damage caused by wetness.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.
- The seasonal high water table in areas of this soil limits the absorption and proper treatment of the effluent from septic systems.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

AdB—Alexandria silt loam, 2 to 6 percent slopes

Setting
Landform: *Till plains and stream terraces*
Position on the landform*: Backslope*

Map Unit Composition
Alexandria and similar components: 85 percent

Similar Components
eroded areas
gravel on the surface

Contrasting Components
Bennington soils: 10 percent
Pewamo soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.

- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building Sites

- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

AdC—Alexandria silt loam, 6 to 12 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Alexandria and similar components: 90 percent

Similar Components
layers of sandy loam or gravelly loam below 3 feet

Contrasting Components
soils similar to Pewamo: 5 percent
wetter soils around seeps and springs: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 8.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building Sites

- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

AdC2—Alexandria silt loam, 6 to 12 percent slopes, moderately eroded

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Alexandria and similar components: 90 percent

Similar Components
Cardington
layers of sandy loam or gravelly loam below 3 feet

Contrasting Components
soils similar to Pewamo: 5 percent
wetter soils around seeps and springs: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e

Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 8.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building Sites

- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

AdD—Alexandria silt loam, 12 to 18 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Alexandria and similar components: 90 percent

Similar Components
pockets of gravelly loam or sandy loam below 3 feet

Contrasting Components
soils similar to Pewamo: 5 percent
wetter soils around seeps and springs: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

AdD2—Alexandria silt loam, 12 to 18 percent slopes, moderately eroded

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Alexandria and similar components: 90 percent

Similar Components
pockets of gravelly loam or sandy loam below 3 feet
severely eroded areas
slightly eroded areas

Contrasting Components
soils similar to Pewamo: 5 percent
wetter soils around springs and seeps: 5 percent

Map Unit Interpretive Groups

Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

AdE—Alexandria silt loam, 18 to 25 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Alexandria and similar components: 85 percent

Similar Components
pockets of gravel below 3 feet
eroded areas

Contrasting Components
soils similar to Holly: 4 percent
soils similar to Pewamo: 4 percent
wetter soils around springs and seeps: 4 percent
soils similar to Shoals: 3 percent

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams

Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Very high
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Properly designed erosion-control practices are needed on the steeper slopes.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and

streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-2
Hydric soil: No

AdE2—Alexandria silt loam, 18 to 25 percent slopes, moderately eroded

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Alexandria and similar components: 95 percent

Similar Components
slightly eroded areas

Contrasting Components
nearly vertical stream banks: 3 percent
severely eroded areas: 2 percent

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Very high
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Properly designed erosion-control practices are needed on the steeper slopes.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.

- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-2
Hydric soil: No

AdF—Alexandria silt loam, 25 to 40 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Alexandria and similar components: 85 percent

Similar Components
pockets of gravel below 3 feet
eroded areas

Contrasting Components
severely eroded nearly vertical streambanks: 3 percent
soils similar to Holly: 3 percent
soils similar to Pewamo: 3 percent
soils similar to Shoals: 3 percent
wetter soils around springs and seeps: 3 percent

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Very high
Wind erosion hazard: Slight

Use and Management Considerations

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- The slope may restrict the use of some farm equipment.
- The root systems of plants may be damaged by frost action.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- Because of the slope, the use of mechanical planting equipment is not practical.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-3
Hydric soil: No

AeD3—Alexandria silty clay loam, 12 to 18 percent slopes, severely eroded

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Alexandria and similar components: 90 percent

Similar Components
gravelly loam or sandy loam below 3 feet
less eroded areas

Contrasting Components
soils similar to Pewamo: 5 percent
wetter soils around springs and seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 24 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*

Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 2.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silty clay loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.
- Burning may destroy organic matter.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

Ag—Algiers silt loam

Setting
Landform: *Flood plains*
Position on the landform*: Toeslope*

Map Unit Composition
Algiers and similar components: 90 percent

Similar Components
layers of sandy loam or gravelly loam below 3 feet
sandy loam surface layer
buried soil
gravelly loam surface layer
loam surface layer

Contrasting Components
Holly soils: 5 percent
Sloan soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.*

Soil Properties and Qualities

Available water capacity: *About 11.0 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 24 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Apparent
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *Frequent*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Recent loamy alluvium over dark colored loamy alluvium*
Permeability: *Moderate*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Winter grain crops are commonly not grown because of frequent flooding.
- Measures that protect the soil from scouring and minimize the loss of crop residue by floodwaters are needed.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Flooding may result in damage to haul roads and increased maintenance costs.
- Soil wetness may limit the use of this soil by log trucks.
- Flooding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and

damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The frequent flooding in areas of this soil greatly increases the risk of damage associated with floodwaters. Because of the flooding, this soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- This soil is generally unsuited to septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Rapidly moving floodwaters may damage some components of septic systems.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

Component Interpretive Groups

Pasture and hayland suitability group: C-3
Hydric soil: No

BeB—Belmore loam, 2 to 6 percent slopes

Setting
Landform: *Outwash plains*
Position on the landform*: Summit*

Map Unit Composition
Belmore and similar components: 100 percent

Similar Components
eroded areas
clay loam till at 3 to 5 feet
gravelly loam surface layer
silt loam surface layer

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 7.3 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 7.0 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Gravelly outwash*
Permeability: *Moderately rapid in the subsoil and rapid or very rapid in the underlying material*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Very low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Erosion control is needed when pastures are renovated.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- Rock fragments obstruct the use of mechanical planting equipment.

Building Sites

- This soil is well suited to use as building sites.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

BeC—Belmore loam, 6 to 12 percent slopes

Setting
Landform: *Outwash plains*
Position on the landform*: Shoulder*

Map Unit Composition
Belmore and similar components: 100 percent

Similar Components
sand and gravel layer below 5 feet
eroded areas
clay loam till at 3 to 5 feet
upper 2 to 3 feet almost free of gravel
silt loam surface layer
gravelly loam surface layer
sandy loam surface layer

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 7.3 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 7.0 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Gravelly outwash*
Permeability: *Moderately rapid in the subsoil and rapid or very rapid in the underlying material*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.

- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

BeD—Belmore loam, 12 to 18 percent slopes

Setting
Landform: *Outwash plains*
Position on the landform*: Backslope*

Map Unit Composition
Belmore and similar components: 95 percent

Similar Components
pockets of clay loam till at 2 to 5 feet eroded areas
upper 2 to 3 feet almost free of gravel
silt loam surface layer
gravelly loam surface layer

Contrasting Components
wetter soils around springs and seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 7.3 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 7.0 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Gravelly outwash*
Permeability: *Moderately rapid in the subsoil and rapid or very rapid in the underlying material*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-1

Hydric soil: No

BnA—Bennington silt loam, 0 to 2 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Toeslope*

Map Unit Composition
Bennington and similar components: 90 percent

Similar Components
silty clay in the upper subsoil
more silt or gravel in upper 1 to 3 feet

Contrasting Components
Condit soils: 5 percent
Pewamo soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 8.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.

- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

BnB—Bennington silt loam, 2 to 6 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Shoulder*

Map Unit Composition
Bennington and similar components: 90 percent

Similar Components
reddish surface layer
silty clay in the upper subsoil
dark surface layer
more silt or gravel in upper 1 to 3 feet

Contrasting Components
Condit soils: 5 percent
Pewamo soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *Prime farmland if drained*

Figure 2. Bennington soils are well suited to fish and game ponds.

Soil Properties and Qualities

Available water capacity: *About 8.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Erosion control is needed when pastures are renovated.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.

- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

BnB2—Bennington silt loam, 2 to 6 percent slopes, moderately eroded

Setting
Landform: *Till plains*
Position on the landform*: Shoulder*

Map Unit Composition
Bennington and similar components: 90 percent

Similar Components
Cardington

Contrasting Components
Condit soils: 5 percent
Pewamo soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 8.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 4.0 percent
Parent material: *Wisconsinan loamy basal till*

Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Erosion control is needed when pastures are renovated.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

BpB—Bennington-Fitchville silt loams, 2 to 6 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Shoulder*

Map Unit Composition
Bennington and similar components: 55 percent
Fitchville and similar components: 35 percent

Similar Components
Glenford
Haney
Cardington
Tiro

Contrasting Components
Luray soils: 5 percent
Sebring soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *Prime farmland if drained*

BENNINGTON

Soil Properties and Qualities

Available water capacity: *About 8.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Erosion control is needed when pastures are renovated.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and

may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

FITCHVILLE

Soil Properties and Qualities

Available water capacity: *About 11.1 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 14 to 22 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 3.0 percent
Parent material: *Silty lacustrine deposits*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Erosion control is needed when pastures are renovated.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.

- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

BrB—Berks channery silt loam, 2 to 6 percent slopes

Setting
Landform: *Hills*
Position on the landform*: Summit*

Map Unit Composition
Berks and similar components: 90 percent

Similar Components
solid bedrock less than 20 inches
solid bedrock greater than 40 inches
Lordstown

Contrasting Components
very channery surface layer: 5 percent
very stony surface layer: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.1 inches to a depth of 28 inches*
Cation-exchange capacity of the surface layer: 5.0 to 15 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: *Bedrock (paralithic): 20 to 35 inches and bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 2.3 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Residuum weathered from sandstone*
Permeability: *Moderately rapid in the upper part of the soil and moderately slow or moderate in the underlying material*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: *Channery silt loam*
Potential for surface runoff: Very low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- Rock fragments obstruct the use of mechanical planting equipment.
- Stones restrict the use of equipment during site preparation for planting or seeding.

Building Sites

- Because of the high content of rock fragments, excavation is difficult and cutbanks are unstable. Excavations and trench walls should be reinforced.
- The nature and depth of the soft bedrock in this soil reduces the ease of excavation and increases the difficulty in constructing foundations and installing utilities.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The high content of large stones affects the ease of excavation and grading.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

BrC—Berks channery silt loam, 6 to 12 percent slopes

Setting
Landform: *Hills*
Position on the landform*: Summit*

Map Unit Composition
Berks and similar components: 95 percent

Similar Components
solid bedrock greater than 40 inches
very stony eroded surface layer
Lordstown

Contrasting Components
wetter soils around springs and seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.1 inches to a depth of 28 inches*
Cation-exchange capacity of the surface layer: 5.0 to 15 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (paralithic): 20 to 35 inches and bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 2.3 feet
Ponding: *None*
Drainage class: *Well drained*

Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Residuum weathered from sandstone*
Permeability: *Moderately rapid in the upper part of the soil and moderately slow or moderate in the underlying material*
Potential frost action: *Moderate*
Shrink-swell potential: Low
Surface layer texture: *Channery silt loam*
Potential for surface runoff: *Low*
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.
- Stones restrict the use of equipment during site preparation for planting or seeding.

Building Sites

- Because of the high content of rock fragments, excavation is difficult and cutbanks are unstable. Excavations and trench walls should be reinforced.
- The nature and depth of the soft bedrock in this soil reduces the ease of excavation and increases the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.
- The high content of large stones affects the ease of excavation and grading.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

BrD—Berks channery silt loam, 12 to 18 percent slopes

Setting
Landform: *Hills*
Position on the landform*: Backslope*

Map Unit Composition
Berks and similar components: 90 percent

Similar Components
gravelly surface layer

solid bedrock less than 20 inches
solid bedrock greater than 40 inches
Lordstown

Contrasting Components
very stony surface layer: 5 percent
wetter soils around seeps and springs: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.1 inches to a depth of 28 inches*
Cation-exchange capacity of the surface layer: 5.0 to 15 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (paralithic): 20 to 35 inches and bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 2.3 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Residuum weathered from sandstone*
Permeability: *Moderately rapid in the upper part of the soil and moderately slow or moderate in the underlying material*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: *Channery silt loam*
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.
- Stones restrict the use of equipment during site preparation for planting or seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Because of the high content of rock fragments, excavation is difficult and cutbanks are unstable. Excavations and trench walls should be reinforced.

- The nature and depth of the soft bedrock in this soil reduces the ease of excavation and increases the difficulty in constructing foundations and installing utilities.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.
- The high content of large stones affects the ease of excavation and grading.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

BsF—Berks-Rock outcrop complex, steep

Setting
Landform: *Hills*
Position on the landform*: Footslope*

Map Unit Composition
Berks and similar components: 60 percent
Rock outcrop and similar components: 20 percent

Contrasting Components
very stony soils less than 20 inches to bedrock: 20 percent

Map Unit Interpretive Groups
Land capability classification: 7e
Prime farmland: *Not prime farmland*

BERKS

Soil Properties and Qualities

Available water capacity: *About 3.1 inches to a depth of 28 inches*
Cation-exchange capacity of the surface layer: 5.0 to 15 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (paralithic): 20 to 35 inches and bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 2.3 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Residuum weathered from sandstone*
Permeability: *Moderately rapid in the upper part of the soil and moderately slow or moderate in the underlying material*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: *Channery silt loam*
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Pastureland

- This soil is generally not recommended for pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- Because of the slope, use of equipment to prepare this site for planting and seeding is not practical.
- Because of the slope, the use of mechanical planting equipment is not practical.
- Rock fragments obstruct the use of mechanical planting equipment.
- Stones restrict the use of equipment during site preparation for planting or seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Because of the high content of rock fragments, excavation is difficult and cutbanks are unstable. Excavations and trench walls should be reinforced.
- The nature and depth of the soft bedrock in this soil reduces the ease of excavation and increases the difficulty in constructing foundations and installing utilities.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.
- The high content of large stones affects the ease of excavation and grading.

Component Interpretive Groups

Pasture and hayland suitability group: F-2
Hydric soil: No

ROCK OUTCROP

Use and Management Considerations

- Onsite investigation is needed to determine the suitability for specific uses.

Component Interpretive Groups

Pasture and hayland suitability group: G-2
Hydric soil: *Unranked*

BtA—Bogart loam, 0 to 2 percent slopes

Setting
Landform: *Stream terraces*

Map Unit Composition
Bogart and similar components: 100 percent

Similar Components
gravelly loam surface layer
silt loam surface layer
Fitchville Variant
areas where the subsoil is not mottled

Map Unit Interpretive Groups
Land capability classification: 2s
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 6.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Apparent
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 3.0 percent
Parent material: Outwash
Permeability: *Moderate over moderately rapid*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- This soil is well suited to pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the

soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

BtB—Bogart loam, 2 to 6 percent slopes

Setting
Landform: *Alluvial fans and stream terraces*

Map Unit Composition
Bogart and similar components: 95 percent

Similar Components
Fitchville Variant
till or weathered bedrock at 3 to 5 feet
gravelly loam surface layer

Contrasting Components
wetter soils around seeps and springs: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 6.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Apparent
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 3.0 percent
Parent material: Outwash
Permeability: *Moderate over moderately rapid*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Erosion control is needed when pastures are renovated.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and

damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

BvA—Bogart silt loam, 0 to 2 percent slopes

Setting
Landform: *Stream terraces*

Map Unit Composition
Bogart and similar components: 100 percent

Similar Components
loam surface layer
Fitchville Variant

Map Unit Interpretive Groups
Land capability classification: 1
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 6.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Apparent
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 3.0 percent
Parent material: Outwash
Permeability: *Moderate over moderately rapid*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- This soil is well suited to pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

BvB—Bogart silt loam, 2 to 6 percent slopes

Setting
Landform: *Stream terraces*

Map Unit Composition
Bogart and similar components: 100 percent

Similar Components
loam surface layer
Chili loam
sandy or gravelly material greater than 40 inches
sandy and gravelly material less than 20 inches
Wheeling
Fitchville Variant

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 6.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Apparent
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 3.0 percent
Parent material: Outwash
Permeability: *Moderate over moderately rapid*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Erosion control is needed when pastures are renovated.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.

- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

BwC—Brownsville channery silt loam, 6 to 12 percent slopes

Setting
Landform: *unglaciated plateaus*
Position on the landform*: Summit*

Map Unit Composition
Brownsville and similar components: 90 percent

Contrasting Components
Westmoreland soils: 4 percent
Berks soils: 3 percent
Seep areas: 3 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 4.7 inches to a depth of 56 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Deep or very deep*
Depth to root restrictive feature: *Bedrock (paralithic): 40 to 72 inches*
Depth to the top of the seasonal high water table: Greater than 4.7 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Loamy colluvium derived from sandstone and siltstone over loamy residuum weathered from sandstone and siltstone*
Permeability: *moderate or moderately rapid in the colluvium, moderately rapid in the residuum, and moderately slow in the underlying bedrock*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: *Channery silt loam*
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.

- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Removing excess water can reduce the possibility of soil slippage.
- Slippage may cause uneven slopes, which can affect equipment use and the grazing patterns of animals.
- Slips may effect fencing patterns and increase the cost of maintaining fences and buried water pipelines.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The potential for slippage may interfere with the construction and use of haul roads and log landings and creates unsafe operating conditions.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.
- Stones restrict the use of equipment during site preparation for planting or seeding.

Building Sites

- The hazard of slippage increases the risk of mass soil movement. Sites subject to slippage are generally unsuited to building site development.

Septic Tank Absorption Fields

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of proper installation of the effluent distribution lines.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.
- The high content of large stones affects the ease of excavation and grading.

Component Interpretive Groups

Pasture and hayland suitability group: B-1
Hydric soil: No

BwD—Brownsville channery silt loam, 12 to 18 percent slopes

Setting
Landform: *unglaciated hillsides*
Position on the landform*: Backslope*

Map Unit Composition
Brownsville and similar components: 85 percent

Contrasting Components
Westmoreland soils: 8 percent
Seep areas: 4 percent
Berks soils: 3 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 4.7 inches to a depth of 56 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Deep or very deep*
Depth to root restrictive feature: *Bedrock (paralithic): 40 to 72 inches*
Depth to the top of the seasonal high water table: Greater than 4.7 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Loamy colluvium derived from sandstone and siltstone over loamy residuum weathered from sandstone and siltstone*
Permeability: *moderate or moderately rapid in the colluvium, moderately rapid in the residuum, and moderately slow in the underlying bedrock*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: *Channery silt loam*
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Removing excess water can reduce the possibility of soil slippage.
- Slippage may cause uneven slopes, which can affect equipment use and the grazing patterns of animals.
- Slips may effect fencing patterns and increase the cost of maintaining fences and buried water pipelines.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The potential for slippage may interfere with the construction and use of haul roads and log landings and creates unsafe operating conditions.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.
- Stones restrict the use of equipment during site preparation for planting or seeding.

Building Sites

- The hazard of slippage increases the risk of mass soil movement. Sites subject to slippage are generally unsuited to building site development.

Septic Tank Absorption Fields

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of proper installation of the effluent distribution lines.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.
- The high content of large stones affects the ease of excavation and grading.

Component Interpretive Groups

Pasture and hayland suitability group: B-1
Hydric soil: No

BxE—Brownsville-Westmoreland complex, 18 to 25 percent slopes

Setting
Landform: *unglaciated hillsides*
Position on the landform*: Backslope*

Map Unit Composition
Brownsville and similar components: 60 percent
Westmoreland and similar components: 30 percent

Contrasting Components
Coshocton soils: 4 percent
Brownsville, very stony: 3 percent
Berks soils: 2 percent
Seep areas: 1 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

BROWNSVILLE

Soil Properties and Qualities

Available water capacity: *About 4.9 inches to a depth of 56 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Deep or very deep*
Depth to root restrictive feature: *Bedrock (paralithic): 40 to 72 inches*
Depth to the top of the seasonal high water table: Greater than 4.7 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Loamy colluvium derived from sandstone and siltstone over loamy residuum weathered from sandstone and siltstone*
Permeability: *moderate or moderately rapid in the colluvium, moderately rapid in the residuum, and moderately slow in the underlying bedrock*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: *Channery silt loam*
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Properly designed erosion-control practices are needed on the steeper slopes.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Removing excess water can reduce the possibility of soil slippage.
- Slippage may cause uneven slopes, which can affect equipment use and the grazing patterns of animals.
- Slips may effect fencing patterns and increase the cost of maintaining fences and buried water pipelines.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The potential for slippage may interfere with the construction and use of haul roads and log landings and creates unsafe operating conditions.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.

- The slope restricts the use of equipment for preparing this site for planting and seeding.
- Stones restrict the use of equipment during site preparation for planting or seeding.
- Burning may destroy organic matter.

Building Sites

- The hazard of slippage increases the risk of mass soil movement. Sites subject to slippage are generally unsuited to building site development.

Septic Tank Absorption Fields

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of proper installation of the effluent distribution lines.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.
- The high content of large stones affects the ease of excavation and grading.

Component Interpretive Groups

Pasture and hayland suitability group: B-1
Hydric soil: No

WESTMORELAND

Soil Properties and Qualities

Available water capacity: *About 6.3 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 15 to 25 meq per 100 grams
Depth class: *Deep or very deep*
Depth to root restrictive feature: *Bedrock (lithic): 40 to 80 inches*
Depth to the top of the seasonal high water table: Greater than 5.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 4.0 percent
Parent material: *Loamy colluvium derived from sandstone and siltstone over loamy residuum weathered from sandstone and siltstone*
Permeability: *Moderate in the soil and very slow to moderate in the underlying bedrock*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Properly designed erosion-control practices are needed on the steeper slopes.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Removing excess water can reduce the possibility of soil slippage.
- Slippage may cause uneven slopes, which can affect equipment use and the grazing patterns of animals.
- Slips may effect fencing patterns and increase the cost of maintaining fences and buried water pipelines.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.

- The potential for slippage may interfere with the construction and use of haul roads and log landings and creates unsafe operating conditions.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.
- Burning may destroy organic matter.

Building Sites

- The hazard of slippage increases the risk of mass soil movement. Sites subject to slippage are generally unsuited to building site development.

Septic Tank Absorption Fields

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of proper installation of the effluent distribution lines.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.
- The moderate permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-2
Hydric soil: No

CdB—Canfield silt loam, 2 to 6 percent slopes

Setting
Landform: *Till plains*
Position on the landform: *Summit*

Map Unit Composition
Canfield and similar components: 90 percent

Similar Components
gravel in lower part of subsoil
slopes of 1 to 2 percent
weathered bedrock within 40 inches
Ravenna

Contrasting Components
Frenchtown soils: 5 percent
stony or bouldery areas: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.9 inches to a depth of 22 inches*
Cation-exchange capacity of the surface layer: *10 to 18 meq per 100 gram*
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 15 to 28 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow above the fragipan and slow in the fragipan*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

CdB2—Canfield silt loam, 2 to 6 percent slopes, moderately eroded

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Canfield and similar components: 100 percent

Similar Components
slopes of more than 6 percent
Ravenna

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.9 inches to a depth of 22 inches*

Cation-exchange capacity of the surface layer: *10 to 18 meq per 100 gram*
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 15 to 28 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow above the fragipan and slow in the fragipan*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

CdC—Canfield silt loam, 6 to 12 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Footslope*

Map Unit Composition
Canfield and similar components: 95 percent

Similar Components
eroded areas
thin layer of gravel or broken rock below 30 inches

Contrasting Components
wetter soils in drainageways and around springs and seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 3.9 inches to a depth of 22 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 15 to 28 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow above the fragipan and slow in the fragipan*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the

soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

CdC2—Canfield silt loam, 6 to 12 percent slopes, moderately eroded

Setting
Landform: *Till plains*
Position on the landform*: Footslope*

Map Unit Composition
Canfield and similar components: 95 percent

Similar Components
Wooster

Contrasting Components
wetter soils around seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 3.9 inches to a depth of 22 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 15 to 28 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow above the fragipan and slow in the fragipan*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.

- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

CgB—Cardington silt loam, 2 to 6 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Summit*

Map Unit Composition
Cardington and similar components: 100 percent

Similar Components
gravelly surface layer
pockets or layers of gravel or silt below 3 feet
Alexandria
Bennington
areas with reddish color when plowed
moderately eroded areas

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.3 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

CgB2—Cardington silt loam, 2 to 6 percent slopes, moderately eroded

Setting
Landform: *Till plains*
Position on the landform*: Summit*

Map Unit Composition
Cardington and similar components: 100 percent

Similar Components
gravelly soils
pockets of gravel or silt below 3 feet
Alexandria
Bennington

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.3 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require

some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

CgC—Cardington silt loam, 6 to 12 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Cardington and similar components: 85 percent

Similar Components
soils similar to Shoals
gravelly surface layer
pockets of silt and gravel below 3 feet
Alexandria
Bennington
eroded areas

Contrasting Components
soils similar to Holly: 5 percent
soils similar to Pewamo: 5 percent
wetter soils around springs and seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 8.3 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.

- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

CgC2—Cardington silt loam, 6 to 12 percent slopes, moderately eroded

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Cardington and similar components: 95 percent

Similar Components
gravel in upper 2 feet
gravelly surface layer
pockets or silt, sand, or gravel below 3 feet
Alexandria
Bennington

Contrasting Components
soils similar to Pewamo: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 8.3 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 18 meq per 100 grams
Depth class: *Very deep*

Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

ChC3—Cardington silty clay loam, 6 to 12 percent slopes, severely eroded

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Cardington and similar components: 95 percent

Similar Components
pockets of silt, sand, or gravel below 3 feet

Contrasting Components
soils similar to Pewamo: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.3 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 24 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 2.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silty clay loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction

site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

Ck—Carlisle muck

Setting
Landform: *Depressions*

Map Unit Composition
Carlisle and similar components: 100 percent

Similar Components
organic deposits less than 51 inches thick

Map Unit Interpretive Groups
Land capability classification: 3w
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 15.0 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 150 to 230 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.0 to 0.5 feet
Water table kind: Apparent
Ponding: *Brief*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Very poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 70.0 to 99.0 percent
Parent material: *Organic material*
Permeability: Moderately rapid
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Muck
Potential for surface runoff: Very low
Wind erosion hazard: Severe

Use and Management Considerations

Cropland

- Maintaining vegetative cover and establishing windbreaks reduce the hazard of wind erosion.
- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- A combination of surface and subsurface drainage helps to remove excess water.
- Subsidence or shrinkage of the muck causes displacement of subsurface drains.

- Control of the water table helps reduce subsidence, prevent burning, and reduce the hazard of wind erosion.
- The soil may be deficient in micronutrients because of the high content of organic matter.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- When drained, the organic layers in this soil subside. Subsidence leads to differential rates of settlement which may cause foundations to break. Because of the high potential for subsidence, this soil is generally unsuited to building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the organic material reduces the bearing capacity of this soil.
- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.

Component Interpretive Groups

Pasture and hayland suitability group: D-1
Hydric soil: Yes

CmB—Chili silt loam, 2 to 6 percent slopes

Setting
Landform: *outwash terraces and outwash alluvial fans*
Position on the landform*: Footslope*

Map Unit Composition
Chili and similar components: 90 percent

Contrasting Components
Chili, higher clay soils: 10 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 7.4 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 16 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Loamy glaciofluvial deposits derived from mixed over acid sandy and*

gravelly outwash derived from sandstone and siltstone
Permeability: *Moderate*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Erosion control is needed when pastures are renovated.
- Removing excess water can reduce the possibility of soil slippage.
- Slippage may cause uneven slopes, which can affect equipment use and the grazing patterns of animals.
- Slips may effect fencing patterns and increase the cost of maintaining fences and buried water pipelines.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The potential for slippage may interfere with the construction and use of haul roads and log landings and creates unsafe operating conditions.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- Rock fragments obstruct the use of mechanical planting equipment.

Building Sites

- The hazard of slippage increases the risk of mass soil movement. Sites subject to slippage are generally unsuited to building site development.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

CnB—Chili loam, 2 to 6 percent slopes

Setting
Landform: *Outwash terraces*

Map Unit Composition
Chili and similar components: 95 percent

Similar Components
broken rock or till at 3 to 5 feet
Wheeling
Bogart
Eroded areas with gravelly loam surface layer

Contrasting Components
Fitchville Variant: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 5.0 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 16 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: Outwash
Permeability: *Moderately rapid*
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Very low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- Rock fragments obstruct the use of mechanical planting equipment.

Building Sites

- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.
- This soil is well suited to use as building sites.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.

Local Roads and Streets

- This soil is well suited to use as a site for local roads and streets.

Component Interpretive Groups

Pasture and hayland suitability group: B-1
Hydric soil: No

CnC—Chili loam, 6 to 12 percent slopes

Setting
Landform: *Outwash terraces*

Map Unit Composition
Chili and similar components: 95 percent

Similar Components
broken rock or till at 3 to 5 feet
Bogart
Wheeling
Conotton
gravelly loam surface layer

Contrasting Components
severely eroded areas with gravelly loam surface layer: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 5.0 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 16 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: Outwash
Permeability: *Moderately rapid*
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: B-1
Hydric soil: No

CoD—Chili and Conotton soils, 12 to 18 percent slopes

Setting
Landform: *Outwash terraces*

Map Unit Composition
Chili and similar components: 0 to 98 percent
Conotton and similar components: 0 to 98 percent

Similar Components
eroded areas
broken rock at 4 to 5 feet

Contrasting Components
wetter soils around seeps and springs: 2 percent

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

CHILI

Soil Properties and Qualities

Available water capacity: *About 5.0 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 5.0 to 13 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: Outwash
Permeability: *Moderately rapid*
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Gravelly loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

- Rock fragments obstruct the use of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: B-1
Hydric soil: No

CONOTTON

Soil Properties and Qualities

Available water capacity: *About 3.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 16 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 3.0 percent
Parent material: *Gravelly outwash*
Permeability: Rapid
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Gravelly loam
Potential for surface runoff: Very low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.

- The slope restricts the use of equipment for preparing this site for planting and seeding.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: B-1
Hydric soil: No

CoD3—Chili and Conotton soils, 12 to 18 percent slopes, severely eroded

Setting
Landform: *Outwash terraces*

Map Unit Composition
Chili and similar components: 0 to 90 percent
Conotton and similar components: 0 to 90 percent

Similar Components
broken rock at 3 to 5 feet
less eroded areas

Contrasting Components
wetter soils around seeps and springs: 3 percent

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

CHILI

Soil Properties and Qualities

Available water capacity: *About 5.0 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 3.0 to 13 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 2.0 percent
Parent material: Outwash
Permeability: *Moderately rapid*
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Gravelly loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: B-1
Hydric soil: No

CONOTTON

Soil Properties and Qualities

Available water capacity: *About 3.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 5.0 to 16 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 2.0 percent
Parent material: *Gravelly outwash*
Permeability: Rapid
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Gravelly loam
Potential for surface runoff: Very low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture

stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: B-1
Hydric soil: No

CoE—Chili and Conotton soils, 18 to 25 percent slopes

Setting
Landform: *Outwash terraces*

Map Unit Composition
Chili and similar components: 0 to 98 percent
Conotton and similar components: 0 to 98 percent

Similar Components
broken rock at 3 to 5 feet

Contrasting Components
wetter soils around seeps and springs: 2 percent

Map Unit Interpretive Groups
Land capability classification: 7e
Prime farmland: *Not prime farmland*

CHILI

Soil Properties and Qualities

Available water capacity: *About 5.0 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 5.0 to 13 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*

Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: Outwash
Permeability: *Moderately rapid*
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Gravelly loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Properly designed erosion-control practices are needed on the steeper slopes.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: B-1
Hydric soil: No

CONOTTON

Soil Properties and Qualities

Available water capacity: *About 3.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 16 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 3.0 percent
Parent material: *Gravelly outwash*
Permeability: Rapid
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Gravelly loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Properly designed erosion-control practices are needed on the steeper slopes.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: B-1
Hydric soil: No

CoF—Chili and Conotton soils, 25 to 40 percent slopes

Setting
Landform: *Outwash terraces*

Map Unit Composition
Chili and similar components: 0 to 94 percent
Conotton and similar components: 0 to 94 percent

Similar Components
broken rock at 3 to 5 feet
Loudonville
Wooster
Wheeling

Contrasting Components
severely eroded areas: 3 percent
wetter soils around seeps and springs: 3 percent

Map Unit Interpretive Groups
Land capability classification: 7e
Prime farmland: *Not prime farmland*

CHILI

Soil Properties and Qualities

Available water capacity: *About 5.0 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 5.0 to 13 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: Outwash
Permeability: *Moderately rapid*
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Gravelly loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- This soil is generally unsuited to use as cropland because of the slope and the erosion hazard.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- The slope may restrict the use of some farm equipment.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- Because of the slope, the use of mechanical planting equipment is not practical.
- Rock fragments obstruct the use of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: B-2
Hydric soil: No

CONOTTON

Soil Properties and Qualities

Available water capacity: *About 3.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 16 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 3.0 percent
Parent material: *Gravelly outwash*
Permeability: Rapid
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Gravelly loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- This soil is generally unsuited to use as cropland because of the slope and the erosion hazard.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- The slope may restrict the use of some farm equipment.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- Sandy layers in this soil increase the maintenance of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- Because of the slope, the use of mechanical planting equipment is not practical.
- Rock fragments obstruct the use of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- The slope influences the use of machinery and the amount of excavation required.

Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: B-2
Hydric soil: No

Cp—Condit silty clay loam

Setting
Landform: *Depressions on till plains*

Map Unit Composition
Condit and similar components: 90 percent

Contrasting Components
Bennington soils: 2 percent
Colwood soils: 2 percent
Lenawee soils: 2 percent
Pewamo soils: 2 percent
small wet spots and closed depressions: 2 percent

Map Unit Interpretive Groups
Land capability classification: 3w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 7.2 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: At or near the surface
Water table kind: Apparent
Ponding: *Long*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: Till
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silty clay loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- The rooting depth of crops may be restricted by the high clay content.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- A combination of surface and subsurface drainage helps to remove excess water.
- Including deep-rooted cover crops in the rotation is important for improving soil structure and providing pathways in the clayey subsoil to facilitate the movement of water into subsurface drains.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- Standing water can inhibit the growth of some species of seedlings by restricting root respiration.

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- Soil wetness may limit the use of this soil by log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- Burning may destroy organic matter.

Building Sites

- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-2
Hydric soil: Yes

Cr—Condit silt loam

Setting
Landform: *Depressions on till plains*

Map Unit Composition
Condit and similar components: 95 percent

Similar Components
silty clay loam surface layer pockets of silt or gravel below 3 feet
Pewamo

Contrasting Components
Bennington soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 10.5 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 14 to 16 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.0 to 0.5 feet
Water table kind: Apparent
Ponding: *Brief*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- The rooting depth of crops may be restricted by the high clay content.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- A combination of surface and subsurface drainage helps to remove excess water.
- Including deep-rooted cover crops in the rotation is important for improving soil

structure and providing pathways in the clayey subsoil to facilitate the movement of water into subsurface drains.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building Sites

- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: Yes

Cs—Condit-Bennington silt loams

Setting
Landform: *Depressions and flats on till plains*

Map Unit Composition
Condit and similar components: 50 percent
Bennington and similar components: 30 percent

Contrasting Components
Pewamo soils: 10 percent
Silt or gravel at 3 feet: 5 percent
darker colored surface layer: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3w
Prime farmland: *Prime farmland if drained*

CONDIT

Soil Properties and Qualities

Available water capacity: *About 7.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 5 to 10 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 70 inches
Depth to the top of the seasonal high water table: 0.0 to 0.5 feet
Water table kind: Perched
Ponding: *Long*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: Till

Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- The rooting depth of crops may be restricted by the high clay content.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- A combination of surface and subsurface drainage helps to remove excess water.
- Including deep-rooted cover crops in the rotation is important for improving soil structure and providing pathways in the clayey subsoil to facilitate the movement of water into subsurface drains.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- Standing water can inhibit the growth of some species of seedlings by restricting root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building Sites

- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: Yes

BENNINGTON

Soil Properties and Qualities

Available water capacity: *About 8.1 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 64 inches

Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: Till
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

CtC—Conotton gravelly loam, 2 to 12 percent slopes

Setting
Landform: *Outwash terraces*

Map Unit Composition
Conotton and similar components: 100 percent

Similar Components
Chili
eroded areas

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 3.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 16 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 3.0 percent
Parent material: *Gravelly outwash*
Permeability: Rapid
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Gravelly loam
Potential for surface runoff: Very low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: B-1

Hydric soil: No

CvC—Coshocton loam, 6 to 15 percent slopes

Setting
Landform: *Hillsides*

Map Unit Composition
Coshocton and similar components: 100 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 6.6 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Deep or very deep*
Depth to root restrictive feature: *Bedrock (paralithic): 40 to 84 inches*
Depth to the top of the seasonal high water table: 1.5 to 3.0 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Colluvium over residuum weathered from shale*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of proper installation of the effluent distribution lines.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

DmB—Digby loam, 1 to 4 percent slopes

Setting
Landform: *Outwash plains*
Position on the landform*: Summit*

Map Unit Composition
Digby and similar components: 95 percent

Similar Components
Haney
clay loam till at 3 to 5 feet
no gravel within 2 to 3 feet
silt loam surface layer
gravelly loam surface layer

Contrasting Components
poorly drained, dark colored soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 7.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 0.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Apparent
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Sandy and gravelly outwash*
Permeability: *Moderate*
Potential frost action: High
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Erosion control is needed when pastures are renovated.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

FbA—Fitchville silt loam, 1 to 4 percent slopes

Setting
Landform: *Depressions, flats, and knolls on stream terraces*

Map Unit Composition
Fitchville and similar components: 100 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 10.2 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 14 to 22 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.0 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 3.0 percent
Parent material: *Silty lacustrine deposits*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- Soil wetness may limit the use of this soil by log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

FcA—Fitchville silt loam, 0 to 2 percent slopes

Setting
Landform: *Lake plains*
Position on the landform*: Toeslope*

Map Unit Composition
Fitchville and similar components: 90 percent

Similar Components
sandy loam or gravelly loam below 3 feet
till within 3 feet
black or very dark gray surface layer
loam surface layer

Contrasting Components
Luray soils: 5 percent
Sebring soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 11.1 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 14 to 22 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 3.0 percent
Parent material: *Silty lacustrine deposits*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.

- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

FcB—Fitchville silt loam, 2 to 6 percent slopes

Setting
Landform: *Lake plain*

Map Unit Composition
Fitchville and similar components: 95 percent

Similar Components
Glenford
broken rock or gravelly loam at 3 to 5 feet
firm till within 3 feet
black or very dark gray loam surface layer

Contrasting Components
Sebring soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 11.1 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 14 to 22 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 3.0 percent
Parent material: *Silty lacustrine deposits*
Permeability: *Moderately slow*
Potential frost action: High

Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Erosion control is needed when pastures are renovated.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

FdA—Fitchville-Bennington silt loams, 0 to 2 percent slopes

Setting
Landform: *Lake plains*

Map Unit Composition
Fitchville and similar components: 55 percent
Bennington and similar components: 35 percent

Similar Components
Digby
Tiro

Contrasting Components
Luray soils: 5 percent
Sebring soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

FITCHVILLE

Soil Properties and Qualities

Available water capacity: *About 11.1 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 14 to 22 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 3.0 percent
Parent material: *Silty lacustrine deposits*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

BENNINGTON

Soil Properties and Qualities

Available water capacity: *About 8.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.

- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

FgA—Fitchville silt loam, gravelly subsoil variant, 0 to 2 percent slopes

Setting
Landform: *Lake plain*

Map Unit Composition
Fitchville Variant and similar components: 95 percent

Similar Components
gravelly loam within 24 inches
more than 40 inches to gravel

Contrasting Components
grayer subsoil: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 9.0 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Sandy and silty lacustrine deposits*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.

- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

FgB—Fitchville silt loam, gravelly subsoil variant, 2 to 6 percent slopes

Setting
Landform: *Lake plains*

Map Unit Composition
Fitchville Variant and similar components: 95 percent

Similar Components
gravelly surface layer and upper subsoil
Bogart

Contrasting Components
Luray soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 9.0 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Sandy and silty lacustrine deposits*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Erosion control is needed when pastures are renovated.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

Fr—Frenchtown silt loam

Setting
Landform: *Depressions on till plains*

Map Unit Composition
Frenchtown and similar components: 100 percent

Similar Components
gravel or bedrock within 3 to 5 feet
areas covered by light colored overwash

Map Unit Interpretive Groups
Land capability classification: 3w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 4.3 inches to a depth of 22 inches*
Cation-exchange capacity of the surface layer: 10 to 22 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 13 to 24 inches
Depth to the top of the seasonal high water table: 0.0 to 0.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Wisconsinan loamy ablation till*
Permeability: *Very slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The movement of water into subsurface drains is restricted. Drainage guides can be used to determine tile spacing requirements.
- Subsurface drainage helps to lower the seasonal high water table.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require

some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- Because of the seasonal high water table, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

Component Interpretive Groups

Pasture and hayland suitability group: C-2
Hydric soil: Yes

GdB—Gilpin silt loam, 2 to 6 percent slopes

Setting
Landform: *Hills*
Position on the landform*: Summit*

Map Unit Composition
Gilpin and similar components: 90 percent

Contrasting Components
Coshocton soils: 10 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 4.3 inches to a depth of 30 inches*
Cation-exchange capacity of the surface layer: 7.0 to 24 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 2.5 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 4.0 percent
Parent material: *Loamy residuum weathered from sandstone and siltstone*
Permeability: moderate in the soil and very slow to moderate in the underlying bedrock
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock.
- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Removing excess water can reduce the possibility of soil slippage.
- Slippage may cause uneven slopes, which can affect equipment use and the grazing patterns of animals.

- Slips may effect fencing patterns and increase the cost of maintaining fences and buried water pipelines.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The potential for slippage may interfere with the construction and use of haul roads and log landings and creates unsafe operating conditions.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The hazard of slippage increases the risk of mass soil movement. Sites subject to slippage are generally unsuited to building site development.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

GdC—Gilpin silt loam, 6 to 12 percent slopes

Setting
Landform: *Hills*
Position on the landform*: Shoulder*

Map Unit Composition
Gilpin and similar components: 80 percent

Contrasting Components
Westmoreland soils: 10 percent
Coshocton soils: 5 percent
Library Variant: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 4.3 inches to a depth of 30 inches*
Cation-exchange capacity of the surface layer: 7.0 to 24 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 2.5 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 4.0 percent
Parent material: *Loamy residuum weathered from sandstone and siltstone*
Permeability: moderate in the soil and very slow to moderate in the underlying bedrock
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain

moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Removing excess water can reduce the possibility of soil slippage.
- Slippage may cause uneven slopes, which can affect equipment use and the grazing patterns of animals.
- Slips may effect fencing patterns and increase the cost of maintaining fences and buried water pipelines.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The potential for slippage may interfere with the construction and use of haul roads and log landings and creates unsafe operating conditions.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The hazard of slippage increases the risk of mass soil movement. Sites subject to slippage are generally unsuited to building site development.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

GfA—Glenford silt loam, 0 to 2 percent slopes

Setting
Landform: *Lake plains*
Position on the landform*: Summit*

Map Unit Composition
Glenford and similar components: 100 percent

Similar Components
gravel on the surface
broken rock below 4 feet
areas with layers of firm pebbly clay loam
Fitchville

Map Unit Interpretive Groups
Land capability classification: 1
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 10.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Silty lacustrine deposits*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

GfB—Glenford silt loam, 2 to 6 percent slopes

Setting
Landform: *Lake plain*
Position on the landform*: Summit*

Map Unit Composition
Glenford and similar components: 95 percent

Similar Components
sandy, gravelly surface layer
Fitchville
gravel, till, or broken rock at 40 to 60 inches
areas with layers of firm pebbly clay loam

Contrasting Components
Pewamo soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 10.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Silty lacustrine deposits*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland
- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

GfC—Glenford silt loam, 6 to 12 percent slopes

Setting
Landform: *Lake plains*
Position on the landform*: Backslope*

Map Unit Composition
Glenford and similar components: 95 percent

Similar Components
Mentor
areas underlain by till, gravel, or shattered bedrock

Contrasting Components
Pewamo soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 10.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Silty lacustrine deposits*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require

some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups
Pasture and hayland suitability group: A-6
Hydric soil: No

GrB—Gresham silt loam, 2 to 6 percent slopes

Setting
Landform: *Till plains*

Map Unit Composition
Gresham and similar components: 95 percent

Similar Components
broken rock at 3 feet
broken rock within 60 inches

Contrasting Components
wetter soils in drainageways and around springs: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 4.3 inches to a depth of 23 inches*
Cation-exchange capacity of the surface layer: 10 to 23 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 18 to 26 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Illinoian loamy till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

- Subsurface drainage helps to lower the seasonal high water table.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

HaB—Haney loam, 2 to 6 percent slopes

Setting
Landform: *Outwash plains*
Position on the landform*: Summit and backslope*

Map Unit Composition
Haney and similar components: 100 percent

Similar Components
slopes of less than 2 percent
slopes of more than 6 percent
upper 1 to 3 feet almost free of gravel
Digby
gravelly soils
till at 3 to 5 feet

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 6.8 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Apparent
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Loamy to gravelly outwash*
Permeability: *Moderate in the surface and subsoil, rapid in the underlying material*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Erosion control is needed when pastures are renovated.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

HfB—Hanover silt loam, 2 to 6 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Backslope and summit*

Map Unit Composition
Hanover and similar components: 95 percent

Similar Components
stony soils
broken rock within 40 inches
Titusville

Contrasting Components
wetter soils around springs, wet spots, and drainageways: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.8 inches to a depth of 22 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 28 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Illinoian loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- This soil is well suited to use as building sites.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

HfC—Hanover silt loam, 6 to 12 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Hanover and similar components: 95 percent

Similar Components
Chili
Loudonville
Titusville

Contrasting Components
wetter soils around seeps and springs: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 3.8 inches to a depth of 22 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 28 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Illinoian loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

HfC2—Hanover silt loam, 6 to 12 percent slopes, moderately eroded

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Hanover and similar components: 100 percent

Similar Components
stony or gravelly soils
bedrock within 40 inches
Titusville

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 3.8 inches to a depth of 22 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 28 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Illinoian loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3

Hydric soil: No

HfC3—Hanover silt loam, 6 to 12 percent slopes, severely eroded

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Hanover and similar components: 95 percent

Similar Components
bedrock within 40 inches
Titusville

Contrasting Components
uneroded areas: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.8 inches to a depth of 22 inches*
Cation-exchange capacity of the surface layer: 6.0 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 28 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 2.0 percent
Parent material: *Illinoian loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.

- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

HfD—Hanover silt loam, 12 to 18 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Hanover and similar components: 95 percent

Similar Components
Titusville
broken rock at 3 to 4 feet
stony or gravelly soils
eroded areas

Contrasting Components
wetter soils around springs and seeps and along drainageways: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.8 inches to a depth of 22 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 28 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Illinoian loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

HfD2—Hanover silt loam, 12 to 18 percent slopes, moderately eroded

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Hanover and similar components: 95 percent

Similar Components
bedrock within 40 inches
gravelly or stony soils

Contrasting Components
wetter soils around seeps and springs: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.8 inches to a depth of 22 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 28 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Illinoian loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.

- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

HfE—Hanover silt loam, 18 to 25 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Hanover and similar components: 85 percent

Similar Components
slopes of more than 25 percent
Chili
eroded areas
solid bedrock or broken rock at 3 to 5 feet
stones and boulders on the surface

Contrasting Components
soils similar to Holly: 4 percent
soils similar to Shoals: 4 percent
wetter soils around seeps and springs: 4 percent
gullied areas: 3 percent

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.8 inches to a depth of 22 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 28 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Illinoian loamy till*

Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

Ho—Holly silt loam

Setting
Landform: *Flood plains*

Map Unit Composition
Holly and similar components: 95 percent

Similar Components
stony surface layer
sandy loam or gravelly loam below 3 feet
bedrock at 3 to 5 feet
gravelly loam surface layer
loam surface layer
silty clay loam surface layer

Figure 3. Holly, Shoals, and Sloan are common floodplain soils along Cedar Fork.

Contrasting Components
Shoals soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3w
Prime farmland: *Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season*

Soil Properties and Qualities

Available water capacity: *About 11.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 24 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.0 to 0.5 feet
Water table kind: Apparent
Ponding: *None*
Drainage class: *Poorly drained*
Flooding: *Frequent*
Organic matter content in the surface layer: 2.0 to 5.0 percent
Parent material: *Loamy alluvium*
Permeability: *Moderate*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Winter grain crops are commonly not grown because of frequent flooding.

- Measures that protect the soil from scouring and minimize the loss of crop residue by floodwaters are needed.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- Standing water can inhibit the growth of some species of seedlings by restricting root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Flooding may result in damage to haul roads and increased maintenance costs.
- Soil wetness may limit the use of this soil by log trucks.
- Flooding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The frequent flooding in areas of this soil greatly increases the risk of damage associated with floodwaters. Because of the flooding, this soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- This soil is generally unsuited to septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Rapidly moving floodwaters may damage some components of septic systems.
- Because of the seasonal high water table, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

Component Interpretive Groups

Pasture and hayland suitability group: C-3
Hydric soil: Yes

HpB—Homewood silt loam, 2 to 6 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Summit*

Map Unit Composition
Homewood and similar components: 85 percent

Contrasting Components
Unnamed, no fragipan: 10 percent
Gresham soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.1 inches to a depth of 60 inches*

Cation-exchange capacity of the surface layer: 10 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 36 inches
Depth to the top of the seasonal high water table: 2.5 to 4.0 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Illinoian loamy till derived from sandstone and shale*
Permeability: *Very slow or slow*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Erosion control is needed when pastures are renovated.
- Removing excess water can reduce the possibility of soil slippage.
- Slippage may cause uneven slopes, which can affect equipment use and the grazing patterns of animals.
- Slips may effect fencing patterns and increase the cost of maintaining fences and buried water pipelines.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The potential for slippage may interfere with the construction and use of haul roads and log landings and creates unsafe operating conditions.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The hazard of slippage increases the risk of mass soil movement. Sites subject to slippage are generally unsuited to building site development.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

HpC—Homewood silt loam, 6 to 12 percent slopes

Setting
Landform: *Illinoian hills on till plains*
small, conical hills on till plains
sideslopes of small hills on till plains

Position on the landform*: Summit and backslope*

Map Unit Composition
Homewood and similar components: 90 percent

Contrasting Components
Chili soils: 3 percent
Mechanicsburg soils: 3 percent
Gresham soils: 2 percent
Orrville soils: 2 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 8.1 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 36 inches
Depth to the top of the seasonal high water table: 2.5 to 4.0 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Illinoian loamy till derived from sandstone and shale*
Permeability: *Very slow or slow*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Removing excess water can reduce the possibility of soil slippage.
- Slippage may cause uneven slopes, which can affect equipment use and the grazing patterns of animals.
- Slips may effect fencing patterns and increase the cost of maintaining fences and buried water pipelines.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The potential for slippage may interfere with the construction and use of haul roads and log landings and creates unsafe operating conditions.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The hazard of slippage increases the risk of mass soil movement. Sites subject to slippage are generally unsuited to building site development.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper

treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

HpD2—Homewood silt loam, 12 to 18 percent slopes, eroded

Setting
Landform: *Illinoian valleys and sideslopes of valleys on till plains*
Position on the landform*: Backslope*

Map Unit Composition
Homewood and similar components: 90 percent

Contrasting Components
Chili soils: 3 percent
Loudonville: 3 percent
Gresham soils: 2 percent
Orrville soils: 2 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 8.1 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 36 inches
Depth to the top of the seasonal high water table: 2.5 to 4.0 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Illinoian loamy till derived from sandstone and shale*
Permeability: *Very slow or slow*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Removing excess water can reduce the possibility of soil slippage.
- Slippage may cause uneven slopes, which can affect equipment use and the grazing patterns of animals.
- Slips may effect fencing patterns and increase the cost of maintaining fences and buried water pipelines.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The potential for slippage may interfere with the construction and use of haul roads and log landings and creates unsafe operating conditions.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The hazard of slippage increases the risk of mass soil movement. Sites subject to slippage are generally unsuited to building site development.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3

Hydric soil: No

HpE2—Homewood silt loam, 18 to 25 percent slopes, eroded

Setting
Landform: *Illinoian valleys and valley sideslopes on till plains*
Position on the landform*: Backslope*

Map Unit Composition
Homewood and similar components: 90 percent

Contrasting Components
Mechanicsburg soils: 4 percent
Loudonville: 3 percent
Gresham soils: 2 percent
Chili soils: 1 percent

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.1 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 36 inches
Depth to the top of the seasonal high water table: 2.5 to 4.0 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Illinoian loamy till derived from sandstone and shale*
Permeability: *Very slow or slow*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: Very high
Wind erosion hazard: Slight

Use and Management Considerations

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.

- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Removing excess water can reduce the possibility of soil slippage.
- Slippage may cause uneven slopes, which can affect equipment use and the grazing patterns of animals.
- Slips may effect fencing patterns and increase the cost of maintaining fences and buried water pipelines.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The potential for slippage may interfere with the construction and use of haul roads and log landings and creates unsafe operating conditions.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The hazard of slippage increases the risk of mass soil movement. Sites subject to slippage are generally unsuited to building site development.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

JtA—Jimtown loam, 0 to 2 percent slopes

Setting
Landform: *Glacial drainage channels and outwash plains*

Map Unit Composition
Jimtown and similar components: 94 percent

Contrasting Components
Luray soils: 1 percent
Pewamo soils: 1 percent
Olmsted soils: 1 percent
Bennington soils: 1 percent
Bogart soils: 1 percent
Chili soils: 1 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 7.7 inches to a depth of 60 inches*

Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 84 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Apparent
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 3.0 percent
Parent material: *Loamy outwash over sandy and gravelly outwash*
Permeability: *Moderate*
Potential frost action: High
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

KbA—Kibbie loam, 0 to 2 percent slopes

Setting
Landform: *Flats on lake plains*

Map Unit Composition
Kibbie and similar components: 90 percent

Contrasting Components
Colwood soils: 3 percent
Jimtown soils: 3 percent
Lenawee soils: 2 percent
Tuscola: 2 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 11.5 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 5.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.0 to 2.0 feet
Water table kind: Apparent
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 3.0 percent
Parent material: *Lacustrine deposits*
Permeability: *Moderate*
Potential frost action: High
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- Soil wetness may limit the use of this soil by log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

La—Landes fine sandy loam

Setting
Landform: *Flood plains*

Map Unit Composition
Landes and similar components: 85 percent

Similar Components
dark surface layer less than 10 inches thick

Contrasting Components
Shoals soils: 5 percent
Sloan soils: 5 percent
wetter soils in abandoned channels: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2s
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 5.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 6.0 to 16 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *Occasional*
Organic matter content in the surface layer: 1.0 to 2.0 percent
Parent material: *Coarse-loamy alluvium*
Permeability: *Moderately rapid*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Fine sandy loam
Potential for surface runoff: Very low
Wind erosion hazard: Moderate

Use and Management Considerations

Cropland

- Maintaining vegetative cover and establishing windbreaks reduce the hazard of wind erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Measures that protect the soil from scouring and minimize the loss of crop residue by floodwaters are needed.
- Small grain crops may be damaged by flooding in winter and spring.

Pastureland

- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- Flooding may result in damage to haul roads and increased maintenance costs.
- Flooding restricts the safe use of roads by log trucks.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- Under normal weather conditions, this soil is subject to occasional flooding. The flooding may result in physical damage and costly repairs to buildings. This soil is generally unsuited to homesites. Special design of some structures, such as farm outbuildings, may be needed to prevent damage caused by flooding.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- This soil is generally unsuited to septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Rapidly moving floodwaters may damage some components of septic systems.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

Component Interpretive Groups

Pasture and hayland suitability group: B-3
Hydric soil: No

LfB—Latham silt loam, 2 to 6 percent slopes

Setting
Landform: *Hills*
Position on the landform*: Summit*

Map Unit Composition
Latham and similar components: 100 percent

Similar Components
solid bedrock within 40 inches
wetter soils around wet spots
thin layer of till over shale

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 5.9 inches to a depth of 32 inches*
Cation-exchange capacity of the surface layer: 10 to 20 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (paralithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Residuum weathered from siltstone*
Permeability: Moderate in the soil and very slow or slow in the underlying material
Potential frost action: High
Shrink-swell potential: High
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock and a high clay content.
- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- Because of the stickiness of the soil, the use of equipment for site preparation is restricted to the drier periods.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Severe shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures generally require special design and construction techniques or intensive maintenance.
- The nature and depth of the soft bedrock in this soil reduces the ease of excavation and increases the difficulty in constructing foundations and installing utilities.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

LfC—Latham silt loam, 6 to 12 percent slopes

Setting
Landform: *Hills*
Position on the landform*: Summit backslope*

Map Unit Composition
Latham and similar components: 95 percent

Similar Components
slopes of 12 to 18 percent
slopes of less than 6 percent
solid bedrock within 40 inches
stones and a thin layer of till on the surface
eroded areas with silty clay loam surface layer

Contrasting Components
wetter soils around seeps and springs: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 5.8 inches to a depth of 32 inches*
Cation-exchange capacity of the surface layer: 10 to 20 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (paralithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Residuum weathered from siltstone*
Permeability: Moderate in the soil and very slow or slow in the underlying material
Potential frost action: High
Shrink-swell potential: High
Surface layer texture: Silt loam
Potential for surface runoff: Very high
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock and a high clay content.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.

- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- Because of the stickiness of the soil, the use of equipment for site preparation is restricted to the drier periods.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Severe shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures generally require special design and construction techniques or intensive maintenance.
- The nature and depth of the soft bedrock in this soil reduces the ease of excavation and increases the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

Lg—Lenawee silty clay loam

Setting
Landform: *Glacial lake (relict)*

Map Unit Composition
Lenawee and similar components: 100 percent

Similar Components
Bono soils
Luray soils
Sebring soils

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 11.6 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 15 to 30 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.0 to 1.0 feet
Water table kind: Perched
Ponding: *Long*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Very poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 3.0 to 12.0 percent
Parent material: *Lacustrine deposits*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silty clay loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- The rooting depth of crops may be restricted by the high clay content.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- A combination of surface and subsurface drainage helps to remove excess water.
- Including deep-rooted cover crops in the rotation is important for improving soil structure and providing pathways in the clayey subsoil to facilitate the movement of water into subsurface drains.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- Standing water can inhibit the growth of some species of seedlings by restricting root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: Yes

Lk—Linwood muck

Setting
Landform: *Depressions on till plains*

Map Unit Composition
Linwood and similar components: 100 percent

Similar Components
areas of peat
Luray
Sloan
Pewamo
muck more than 50 inches thick
muck less than 20 inches thick

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 12.2 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 150 to 230 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.0 to 0.5 feet
Water table kind: Apparent
Ponding: *Brief*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Very poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 40.0 to 70.0 percent
Parent material: *Organic material over loamy glaciofluvial deposits*
Permeability: *Moderate*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Muck
Potential for surface runoff: Very low
Wind erosion hazard: Severe

Use and Management Considerations

Cropland

- Maintaining vegetative cover and establishing windbreaks reduce the hazard of wind erosion.
- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- A combination of surface and subsurface drainage helps to remove excess water.
- Subsidence or shrinkage of the muck causes displacement of subsurface drains.
- Control of the water table helps reduce subsidence, prevent burning, and reduce the hazard of wind erosion.
- The soil may be deficient in micronutrients because of the high content of organic matter.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low pH in the soil may cause a nutrient imbalance in seedlings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.

- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- When drained, the organic layers in this soil subside. Subsidence leads to differential rates of settlement which may cause foundations to break. Because of the high potential for subsidence, this soil is generally unsuited to building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the organic material reduces the bearing capacity of this soil.
- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: D-1
Hydric soil: Yes

Lo—Lobdell silt loam

Setting
Landform: Flood plains

Map Unit Composition
Lobdell and similar components: 95 percent

Similar Components
stream channels with steep side slopes
slopes of more than 2 percent
Landes
Shoals
stones and boulders on the surface
bedrock below 3 feet
soils that contain gravel
variable surface textures

Contrasting Components
Holly soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 10.5 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8 to 15 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Apparent
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *Occasional*
Organic matter content in the surface layer:
Parent material: *Loamy alluvium*
Permeability: *Moderate*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

- Measures that protect the soil from scouring and minimize the loss of crop residue by floodwaters are needed.
- Small grain crops may be damaged by flooding in winter and spring.

Pastureland

- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Flooding may result in damage to haul roads and increased maintenance costs.
- Flooding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- Under normal weather conditions, this soil is subject to occasional flooding. The flooding may result in physical damage and costly repairs to buildings. This soil is generally unsuited to homesites. Special design of some structures, such as farm outbuildings, may be needed to prevent damage caused by flooding.

Septic Tank Absorption Fields

- This soil is generally unsuited to septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Rapidly moving floodwaters may damage some components of septic systems.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

Component Interpretive Groups

Pasture and hayland suitability group: A-5
Hydric soil: No

LrB—Lordstown silt loam, 2 to 6 percent slopes

Setting
Landform: *Hill*
Position on the landform*: Summit*

Map Unit Composition
Lordstown and similar components: 95 percent

Similar Components
slopes of more than 6 percent
Berks
solid bedrock greater than 40 inches

Contrasting Components
wetter soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 5.9 inches to a depth of 36 inches*
Cation-exchange capacity of the surface layer: 15 to 25 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 3.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*

Organic matter content in the surface layer: 2.0 to 6.0 percent
Parent material: *Loamy till over loamy residuum weathered from sandstone and siltstone*
Permeability: Moderate in the soil, moderately rapid in the residuum, and moderately slow or moderate in the underlying bedrock
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock.
- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

LrC—Lordstown silt loam, 6 to 12 percent slopes

Setting
Landform: *Hills*
Position on the landform*: Summit*

Map Unit Composition
Lordstown and similar components: 90 percent

Similar Components
eroded areas with a stony surface
Berks
solid bedrock within 20 inches
solid bedrock greater than 40 inches

Contrasting Components
severely eroded areas: 5 percent
wetter soils around springs and seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e

Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 5.9 inches to a depth of 36 inches*
Cation-exchange capacity of the surface layer: 15 to 25 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 3.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 6.0 percent
Parent material: *Loamy till over loamy residuum weathered from sandstone and siltstone*
Permeability: Moderate in the soil, moderately rapid in the residuum, and moderately slow or moderate in the underlying bedrock
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations
Cropland

- The rooting depth of crops is restricted by bedrock.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

LrD—Lordstown silt loam, 12 to 18 percent slopes

Setting
Landform: *Hills*
Position on the landform*: Backslope*

Map Unit Composition
Lordstown and similar components: 90 percent

Similar Components
eroded areas
Berks
solid bedrock within 20 inches
solid bedrock greater than 40 inches

Contrasting Components
severely eroded areas: 5 percent
wetter soils around springs and seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 5.9 inches to a depth of 36 inches*
Cation-exchange capacity of the surface layer: 15 to 25 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 3.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 6.0 percent
Parent material: *Loamy till over loamy residuum weathered from sandstone and siltstone*
Permeability: Moderate in the soil, moderately rapid in the residuum, and moderately slow or moderate in the underlying bedrock
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the

soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

LrE—Lordstown silt loam, 18 to 25 percent slopes

Setting
Landform: *Hillsides*

Map Unit Composition
Lordstown and similar components: 100 percent

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.6 inches to a depth of 30 inches*
Cation-exchange capacity of the surface layer: 15 to 25 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 2.5 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 6.0 percent
Parent material: *Residuum weathered from sandstone and shale*
Permeability: *Moderately slow or moderate*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Pastureland
- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- The slope may restrict the use of some farm equipment.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.

- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- Because of the slope, the use of mechanical planting equipment is not practical.
- Rock fragments obstruct the use of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Because of the moderate content of rock fragments, excavation may be more difficult and cutbanks may become unstable. Excavations and trench walls may require reinforcement.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.
- The high content of large stones affects the ease of excavation and grading.

Component Interpretive Groups

Pasture and hayland suitability group: F-2
Hydric soil: No

LrF—Lordstown silt loam, 25 to 40 percent slopes

Setting
Landform: *Hillsides*

Map Unit Composition
Lordstown and similar components: 100 percent

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities
Available water capacity: *About 3.6 inches to a depth of 30 inches*
Cation-exchange capacity of the surface layer: 15 to 25 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 2.5 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 6.0 percent
Parent material: *Residuum weathered from sandstone and shale*
Permeability: *Moderately slow or moderate*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- The slope may restrict the use of some farm equipment.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- Because of the slope, the use of mechanical planting equipment is not practical.
- Rock fragments obstruct the use of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Because of the moderate content of rock fragments, excavation may be more difficult and cutbanks may become unstable. Excavations and trench walls may require reinforcement.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.
- The high content of large stones affects the ease of excavation and grading.

Component Interpretive Groups

Pasture and hayland suitability group: F-2
Hydric soil: No

LtE—Lordstown and Loudonville silt loams, 18 to 25 percent slopes

Setting
Landform: *Hills*
Position on the landform*: Backslope*

Map Unit Composition
Lordstown and similar components: 0 to 90 percent
Loudonville and similar components: 0 to 90 percent

Similar Components
areas with stones, gravel, and boulders on the surface
bedrock within 20 inches
solid bedrock greater than 40 inches
Conotton
Chili
Berks

Contrasting Components
wetter soils around springs and seeps: 10 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

LORDSTOWN

Soil Properties and Qualities

Available water capacity: *About 5.9 inches to a depth of 36 inches*
Cation-exchange capacity of the surface layer: 15 to 25 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 3.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 6.0 percent

Parent material: *Loamy till over loamy residuum weathered from sandstone and siltstone*
Permeability: Moderate in the soil, moderately rapid in the residuum, and moderately slow or moderate in the underlying bedrock
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Properly designed erosion-control practices are needed on the steeper slopes.
- Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

LOUDONVILLE

Soil Properties and Qualities

Available water capacity: *About 6.2 inches to a depth of 38 inches*
Cation-exchange capacity of the surface layer: 8.0 to 18 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 3.2 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Loamy till over loamy residuum weathered from sandstone and siltstone*
Permeability: Moderate in the soil, moderately rapid in the residuum, and very slow or slow in the underlying bedrock
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Properly designed erosion-control practices are needed on the steeper slopes.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

LtF—Lordstown and Loudonville silt loams, 25 to 40 percent slopes

Setting
Landform: *Hills*
Position on the landform*: Backslope*

Map Unit Composition
Lordstown and similar components: 0 to 90 percent
Loudonville and similar components: 0 to 90 percent

Similar Components
very small rock outcrops
few larges stones on the surface
Conotton
Chili
Berks

Contrasting Components
wetter soils around seeps and springs: 10 percent

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

LORDSTOWN

Soil Properties and Qualities

Available water capacity: *About 5.9 inches to a depth of 36 inches*
Cation-exchange capacity of the surface layer: 15 to 25 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 3.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 6.0 percent
Parent material: *Loamy till over loamy residuum weathered from sandstone and siltstone*
Permeability: Moderate in the soil, moderately rapid in the residuum, and moderately slow or moderate in the underlying bedrock
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- The slope may restrict the use of some farm equipment.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the

soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- Because of the slope, the use of mechanical planting equipment is not practical.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-2
Hydric soil: No

LOUDONVILLE

Soil Properties and Qualities

Available water capacity: *About 6.2 inches to a depth of 38 inches*
Cation-exchange capacity of the surface layer: 8.0 to 18 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 3.2 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Loamy till over loamy residuum weathered from sandstone and siltstone*
Permeability: Moderate in the soil, moderately rapid in the residuum, and very slow or slow in the underlying bedrock
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- The slope may restrict the use of some farm equipment.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- Because of the slope, the use of mechanical planting equipment is not practical.

- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-2
Hydric soil: No

LvB—Loudonville silt loam, 2 to 6 percent slopes

Setting
Landform: *Till plains and hills*
Position on the landform*: Summit and footslope*

Map Unit Composition
Loudonville and similar components: 95 percent

Similar Components
solid bedrock greater than 40 inches
areas with gravel throughout the profile
stony or gravelly surface

Contrasting Components
wetter soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 6.2 inches to a depth of 38 inches*
Cation-exchange capacity of the surface layer: 8.0 to 18 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 3.2 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Loamy till over loamy residuum weathered from sandstone and siltstone*
Permeability: Moderate in the soil, moderately rapid in the residuum, and very slow or slow in the underlying bedrock
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock.
- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Erosion control is needed when pastures are renovated.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

LvC—Loudonville silt loam, 6 to 12 percent slopes

Setting
Landform: *Hills and till plains*
Position on the landform*: Backslope*

Map Unit Composition
Loudonville and similar components: 95 percent

Similar Components
eroded areas
gravelly or stony above bedrock
bedrock within 20 inches
bedrock greater than 40 inches

Contrasting Components
wetter soils around springs and seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 6.2 inches to a depth of 38 inches*
Cation-exchange capacity of the surface layer: 8.0 to 18 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 3.2 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Loamy till over loamy residuum weathered from sandstone and siltstone*
Permeability: Moderate in the soil, moderately rapid in the residuum, and very slow or slow in the underlying bedrock
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

LvD—Loudonville silt loam, 12 to 18 percent slopes

Setting
Landform: *Till plains and hills*
Position on the landform*: Backslope*

Map Unit Composition
Loudonville and similar components: 95 percent

Similar Components
eroded areas
stony surface
soils containing many broken rocks
solid bedrock within 20 inches
solid bedrock greater than 40 inches

Contrasting Components
wetter soils around seeps or springs: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 6.2 inches to a depth of 38 inches*
Cation-exchange capacity of the surface layer: 8.0 to 18 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 3.2 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Loamy till over loamy residuum weathered from sandstone and siltstone*
Permeability: Moderate in the soil, moderately rapid in the residuum, and very slow or slow in the underlying bedrock
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam

Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

Ly—Luray silty clay loam

Setting
Landform: *Depressions and flats on lake plains*

Map Unit Composition
Luray and similar components: 100 percent

Similar Components
stony loam or gravelly loam at 3 to 5 feet
firm till at 3 to 5 feet
thin, pebbly or gravelly layers below 2 feet
dark colors to 2 feet
silt loam surface layer
silty clay surface layer

Map Unit Interpretive Groups
Land capability classification: 2w

Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 11.1 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 20 to 36 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.0 to 0.5 feet
Water table kind: Apparent
Ponding: *Brief*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Very poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 4.0 to 8.0 percent
Parent material: *Silty lacustrine deposits*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: High
Surface layer texture: Silty clay loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Clods may form if the soil is tilled when wet.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- A combination of surface and subsurface drainage helps to remove excess water.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: Yes

LzB—Lykens silt loam, 2 to 6 percent slopes

Setting
Landform: *Till plains*

Map Unit Composition
Lykens and similar components: 100 percent

Similar Components
Cardington soils
Fitchville soils
Glynwood soils
Tuscola soils

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 6.8 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 75 inches
Depth to the top of the seasonal high water table: 1.5 to 3.0 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Lacustrine deposits over till*
Permeability: *Slow or moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Erosion control is needed when pastures are renovated.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: A-6
Hydric soil: No

MeB—Mentor silt loam, 2 to 6 percent slopes

Setting
Landform: *Lake plains and terraces*
Position on the landform*: Backslope*

Map Unit Composition
Mentor and similar components: 100 percent

Similar Components
till or broken rock at 3 to 5 feet
gravel within 3 feet
moderately eroded areas
Glenford

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 10.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Silty lacustrine deposits*
Permeability: *Moderate*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Erosion control is needed when pastures are renovated.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

MeC—Mentor silt loam, 6 to 12 percent slopes

Setting
Landform: *Terraces and lake plains*
Position on the landform*: Backslope*

Map Unit Composition
Mentor and similar components: 90 percent

Similar Components
gravel, broken rock, or till at 3 to 5 feet
Glenford
seeps

Contrasting Components
Holly soils: 5 percent
Sebring soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 10.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Silty lacustrine deposits*
Permeability: *Moderate*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

Op—Olmsted silty clay loam

Setting
Landform: *Outwash terraces*

Map Unit Composition
Olmsted and similar components: 100 percent

Similar Components
Lenawee soils
Luray soils
Marengo soils
Thicker dark surface layer

Map Unit Interpretive Groups

Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 7.2 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer*: 20 to 35 meq per 100 grams*
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.0 to 0.5 feet
Water table kind: Apparent
Ponding: *Long*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Very poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 4.0 to 8.0 percent
Parent material: *Loamy outwash over sandy outwash*
Permeability: *Moderate or moderately rapid*
Potential frost action: High
Shrink-swell potential: Low
Surface layer texture: Silty clay loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- A combination of surface and subsurface drainage helps to remove excess water.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.

- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- Standing water can inhibit the growth of some species of seedlings by restricting root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: Yes

Or—Orrville loam, moderately shallow variant

Setting
Landform: *Flood plains*

Map Unit Composition
Orrville Variant and similar components: 100 percent

Similar Components
bedrock greater than 40 inches
better drained soils

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 3.5 inches to a depth of 38 inches*
Cation-exchange capacity of the surface layer: 9.0 to 23 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Apparent
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *Occasional*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Non-calcareous loamy alluvium*
Permeability: Rapid in the soil and very to moderate in the underlying material
Potential frost action: High
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Very low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock.

- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Measures that protect the soil from scouring and minimize the loss of crop residue by floodwaters are needed.
- Small grain crops may be damaged by flooding in winter and spring.
- Subsurface drainage helps to lower the seasonal high water table.
- The depth to bedrock may restrict the gradient needed to provide adequate drainage from subsurface systems.

Pastureland

- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- Flooding may result in damage to haul roads and increased maintenance costs.
- Soil wetness may limit the use of this soil by log trucks.
- Flooding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- Under normal weather conditions, this soil is subject to occasional flooding. The flooding may result in physical damage and costly repairs to buildings. This soil is generally unsuited to homesites. Special design of some structures, such as farm outbuildings, may be needed to prevent damage caused by flooding.

Septic Tank Absorption Fields

- This soil is generally unsuited to septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Rapidly moving floodwaters may damage some components of septic systems.
- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

Component Interpretive Groups

Pasture and hayland suitability group: B-3
Hydric soil: No

Pa—Pewamo silt loam

Setting
Landform: *Depressions on till plains*

Map Unit Composition
Pewamo and similar components: 95 percent

Similar Components
lighter colored overwash
Condit
surface layer as much as 24 inches thick

Contrasting Components
Bennington soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 10.8 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 15 to 35 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.0 to 0.5 feet
Water table kind: Apparent
Ponding: *Brief*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Very poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 3.0 to 12.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: High
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- The rooting depth of crops may be restricted by the high clay content.
- A combination of surface and subsurface drainage helps to remove excess water.
- Including deep-rooted cover crops in the rotation is important for improving soil structure and providing pathways in the clayey subsoil to facilitate the movement of water into subsurface drains.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building Sites

- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: Yes

Pc—Pewamo silt loam, overwash

Setting
Landform: *Depressions on till plains*

Map Unit Composition
Pewamo and similar components: 100 percent

Similar Components
slopes of 2 to 4 percent
sandy loam surface layer
loam surface layer

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 10.8 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 15 to 35 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.0 to 0.5 feet
Water table kind: Apparent
Ponding: *Brief*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Very poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 3.0 to 12.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: High
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- The rooting depth of crops may be restricted by the high clay content.
- A combination of surface and subsurface drainage helps to remove excess water.
- Including deep-rooted cover crops in the rotation is important for improving soil structure and providing pathways in the clayey subsoil to facilitate the movement of water into subsurface drains.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building Sites

- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: Yes

Pg—Pits, gravel

Map Unit Composition
Pits, gravel and similar components: 100 percent

Use and Management Considerations

- Onsite investigation is needed to determine the suitability for specific uses.

Component Interpretive Groups

Pasture and hayland suitability group: Not rated
Hydric soil: *Unranked*

Pm—Pewamo silty clay loam

Setting
Landform: *Depressions on till plains*

Map Unit Composition
Pewamo and similar components: 95 percent

Similar Components
light colored overwash
Condit
silty clay surface layer
silt loam surface layer
surface layer as much as 24 inches thick

Contrasting Components
Bennington soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 10.8 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 15 to 35 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.0 to 0.5 feet
Water table kind: Apparent
Ponding: *Brief*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Very poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 3.0 to 6.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: High
Surface layer texture: Silty clay loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Clods may form if the soil is tilled when wet.

- Controlling traffic can minimize soil compaction.
- The rooting depth of crops may be restricted by the high clay content.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- A combination of surface and subsurface drainage helps to remove excess water.
- Including deep-rooted cover crops in the rotation is important for improving soil structure and providing pathways in the clayey subsoil to facilitate the movement of water into subsurface drains.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: Yes

ReA—Ravenna silt loam, 0 to 2 percent slopes

Setting
Landform: *Depressions on till plains*

Map Unit Composition
Ravenna and similar components: 95 percent

Similar Components
surface layer up to 2 feet thick

Contrasting Components
Frenchtown soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 4.5 inches to a depth of 23 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 18 to 24 inches

Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

ReB—Ravenna silt loam, 2 to 6 percent slopes

Setting
Landform: *Drainageways on till plains*

Map Unit Composition
Ravenna and similar components: 95 percent

Similar Components
very thick surface layer
gravelly and stony soils
Canfield
bedrock at 5 feet

Contrasting Components
Frenchtown soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 4.5 inches to a depth of 23 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 18 to 24 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.

- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

RsB—Rittman silt loam, 2 to 6 percent slopes

Setting
Landform: *Hills on till plains*
Position on the landform: *Backslope and summit*

Map Unit Composition
Rittman and similar components: 95 percent

Similar Components
bedrock or gravel at 4 to 5 feet
eroded areas
Wadsworth

Contrasting Components
wetter soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.5 inches to a depth of 18 inches*
Cation-exchange capacity of the surface layer: 12 to 25 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 12 to 24 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.

- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

RsB2—Rittman silt loam, 2 to 6 percent slopes, moderately eroded

Setting
Landform: *Hills on till plains*
Position on the landform*: Summit and backslope*

Map Unit Composition
Rittman and similar components: 100 percent

Similar Components
stony surface layer
Wadsworth

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.5 inches to a depth of 18 inches*

Cation-exchange capacity of the surface layer: 10 to 25 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 12 to 24 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.

- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups
Pasture and hayland suitability group: F-3
Hydric soil: No

RsC—Rittman silt loam, 6 to 12 percent slopes

Setting
Landform: *Drainageway sides and hills on till plains*
Position on the landform*: Footslope*

Map Unit Composition
Rittman and similar components: 85 percent

Similar Components
soils similar to Shoals
gravelly or stony surface layer

Contrasting Components
grayer soils around springs and seeps: 5 percent
soils similar to Frenchtown: 5 percent
soils similar to Holly: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 3.5 inches to a depth of 18 inches*
Cation-exchange capacity of the surface layer: 12 to 25 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 12 to 24 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Very high
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.

- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

RsC2—Rittman silt loam, 6 to 12 percent slopes, moderately eroded

Setting
Landform: *Drainageway sides and hills on till plains*
Position on the landform*: Footslope*

Map Unit Composition
Rittman and similar components: 85 percent

Similar Components
stony surface layer
soils similar to Shoals

Contrasting Components
soils similar to Frenchtown: 5 percent
soils similar to Holly: 5 percent
wetter soils around seeps and springs: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 3.5 inches to a depth of 18 inches*
Cation-exchange capacity of the surface layer: 10 to 25 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 12 to 24 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Very high

Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

RsD—Rittman silt loam, 12 to 18 percent slopes

Setting
Landform: *Drainageway sides and hills on till plains*
Position on the landform*: Footslope*

Map Unit Composition
Rittman and similar components: 85 percent

Similar Components
soils similar to Shoals
bedrock within 40 to 60 inches
stony surface

Contrasting Components
soils similar to Frenchtown: 5 percent
soils similar to Holly: 5 percent
wetter soils around seeps and springs: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.5 inches to a depth of 18 inches*
Cation-exchange capacity of the surface layer: 12 to 25 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 12 to 24 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Very high
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.

- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

RsD2—Rittman silt loam, 12 to 18 percent slopes, moderately eroded

Setting
Landform: *Drainageway sides and hills on till plains*
Position on the landform*: Footslope*

Map Unit Composition
Rittman and similar components: 85 percent

Similar Components
bedrock at 4 to 5 feet
soils similar to Shoals

Contrasting Components
soils similar to Frenchtown: 5 percent
soils similar to Pewamo: 5 percent
wetter soils around springs and seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.5 inches to a depth of 18 inches*
Cation-exchange capacity of the surface layer: 10 to 25 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 12 to 24 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High

Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Very high
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

RtC3—Rittman silty clay loam, 6 to 12 percent slopes, severely eroded

Setting
Landform: *Drainageway sides and hills on till plains*
Position on the landform*: Footslope*

Map Unit Composition
Rittman and similar components: 85 percent

Similar Components
stony surface layer
Shoals
less eroded areas

Contrasting Components
soils similar to Frenchtown: 5 percent
soils similar to Holly: 5 percent
wetter soils around seeps and springs: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.5 inches to a depth of 18 inches*
Cation-exchange capacity of the surface layer: 12 to 25 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 12 to 24 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 1.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silty clay loam
Potential for surface runoff: Very high
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

RtD3—Rittman silty clay loam, 12 to 18 percent slopes, severely eroded

Setting
Landform: *Till plains*
Position on the landform*: Footslope*

Map Unit Composition
Rittman and similar components: 85 percent

Similar Components
bedrock at 4 to 5 feet
soils similar to Shoals
less eroded areas with silt loam surface layer

Contrasting Components
soils similar to Frenchtown: 5 percent
soils similar to Pewamo: 5 percent
wetter soils around springs and seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 3.5 inches to a depth of 18 inches*
Cation-exchange capacity of the surface layer: 12 to 25 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 12 to 24 inches

Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 1.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow or slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silty clay loam
Potential for surface runoff: Very high
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.

- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

SaC—Schaffenaker loamy sand, 2 to 12 percent slopes

Setting
Landform: *Hills*
Position on the landform*: Summit*

Map Unit Composition
Schaffenaker and similar components: 100 percent

Similar Components
eroded areas
solid bedrock within 20 inches
broken rock within 40 inches

Map Unit Interpretive Groups
Land capability classification: 4s
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 2.0 inches to a depth of 28 inches*
Cation-exchange capacity of the surface layer: 3.0 to 7.0 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 2.3 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 2.0 percent
Parent material: *Coarse-grained sandy residuum weathered from sandstone*
Permeability: Rapid in the soil and very slow or slow in the underlying material
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Loamy sand
Potential for surface runoff: High
Wind erosion hazard: Severe

Use and Management Considerations

Cropland

- The rooting depth of crops is restricted by bedrock.
- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Maintaining vegetative cover and establishing windbreaks reduce the hazard of wind erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Plant nutrients are leached at an accelerated rate because of the sandy layer.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

- The rooting depth of plants may be restricted by bedrock.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The sandiness of the soil may reduce the traction of wheeled harvest equipment and log trucks.
- Sandy layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.
- Burning may destroy organic matter.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- Because of the moderate content of rock fragments, excavation may be more difficult and cutbanks may become unstable. Excavations and trench walls may require reinforcement.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Because of the slope, designing local roads and streets is difficult.
- The high content of large stones affects the ease of excavation and grading.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

SaD—Schaffenaker loamy sand, 12 to 18 percent slopes

Setting
Landform: *Hills*
Position on the landform*: Shoulder*

Map Unit Composition
Schaffenaker and similar components: 100 percent

Similar Components
sandstone channers on the surface
slopes of more than 18 percent
eroded areas
solid bedrock within 20 inches
broken rock or soft bedrock within 40 inches

Map Unit Interpretive Groups
Land capability classification: 6s
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 2.0 inches to a depth of 28 inches*
Cation-exchange capacity of the surface layer: 3.0 to 7.0 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 2.3 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 2.0 percent
Parent material: *Coarse-grained sandy residuum weathered from sandstone*
Permeability: Rapid in the soil and very slow or slow in the underlying material
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Loamy sand
Potential for surface runoff: High
Wind erosion hazard: Severe

Use and Management Considerations

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The sandiness of the soil may reduce the traction of wheeled harvest equipment and log trucks.
- Sandy layers may slough, thus reducing the efficiency of mechanical planting equipment.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.
- Burning may destroy organic matter.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Because of the moderate content of rock fragments, excavation may be more difficult and cutbanks may become unstable. Excavations and trench walls may require reinforcement.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Because of the slope, designing local roads and streets is difficult.
- The high content of large stones affects the ease of excavation and grading.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

SaE—Schaffenaker loamy sand, 18 to 40 percent slopes

Setting
Landform: *Hills*
Position on the landform*: Backslope*

Map Unit Composition
Schaffenaker and similar components: 95 percent

Similar Components
gravelly surface layer
solid bedrock within 20 inches
solid bedrock greater than 40 inches

Contrasting Components
rock outcrop: 5 percent

Map Unit Interpretive Groups
Land capability classification: 7s
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 2.0 inches to a depth of 28 inches*
Cation-exchange capacity of the surface layer: 3.0 to 7.0 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 2.3 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 2.0 percent
Parent material: *Coarse-grained sandy residuum weathered from sandstone*
Permeability: Rapid in the soil and very slow or slow in the underlying material
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Loamy sand
Potential for surface runoff: High
Wind erosion hazard: Severe

Use and Management Considerations

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- The slope may restrict the use of some farm equipment.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The sandiness of the soil may reduce the traction of wheeled harvest equipment and log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- Sandy layers may slough, thus reducing the efficiency of mechanical planting equipment.
- Because of the slope, the use of mechanical planting equipment is not practical.
- Rock fragments obstruct the use of mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.
- Burning may destroy organic matter.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Because of the moderate content of rock fragments, excavation may be more difficult and cutbanks may become unstable. Excavations and trench walls may require reinforcement.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Because of the slope, designing local roads and streets is difficult.
- The high content of large stones affects the ease of excavation and grading.

Component Interpretive Groups

Pasture and hayland suitability group: F-2
Hydric soil: No

SbE—Schaffenaker loamy sand, 10 to 40 percent slopes

Setting
Landform: *Ridges*

Map Unit Composition
Schaffenaker and similar components: 100 percent

Map Unit Interpretive Groups
Land capability classification: 4s
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 2.0 inches to a depth of 30 inches*
Cation-exchange capacity of the surface layer: 3.0 to 7.0 meq per 100 grams
Depth class: *Moderately deep*
Depth to root restrictive feature: *Bedrock (lithic): 20 to 40 inches*
Depth to the top of the seasonal high water table: Greater than 2.5 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 2.0 percent
Parent material: *Residuum weathered from sandstone*
Permeability: *Very slow or slow*
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Loamy sand
Potential for surface runoff: High
Wind erosion hazard: Severe

Use and Management Considerations

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The rooting depth of plants may be restricted by bedrock.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- Bedrock may interfere with the construction of haul roads and log landing sites.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- The depth to bedrock and hardness of the bedrock greatly reduce the ease of excavation and increase the difficulty in constructing foundations and installing utilities.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- Because of the limited depth to bedrock, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- The depth to bedrock and hardness of the bedrock reduce the ease of excavation and increase the difficulty of constructing roads.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-1
Hydric soil: No

Se—Sebring silt loam

Setting
Landform: *Depressions on lake plains*

Map Unit Composition
Sebring and similar components: 95 percent

Similar Components
compact till at 3 to 4 feet
pebbly or gravelly layers below 30 inches
silty clay loam surface layer

Contrasting Components
Luray soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 11.2 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 15 to 27 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.0 to 0.5 feet
Water table kind: Apparent
Ponding: *Brief*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 3.0 to 5.0 percent
Parent material: *Lacustrine deposits*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- A combination of surface and subsurface drainage helps to remove excess water.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: Yes

Sh—Shoals silt loam

Setting
Landform: *Flood plain*

Map Unit Composition
Shoals and similar components: 95 percent

Similar Components
slopes of more than 2 percent
buried surface layer
few large stones and boulders on the surface
bedrock at 4 to 5 feet
gravelly silt loam surface layer
recent alluvial deposits
Lobdell
gravelly loam surface layer
loam surface layer
nearly vertical banks

Contrasting Components
Holly soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 11.4 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 12 to 27 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.0 feet
Water table kind: Apparent
Ponding: *Brief*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Somewhat poorly drained*
Flooding: *Occasional*
Organic matter content in the surface layer: 2.0 to 5.0 percent
Parent material: *Loamy alluvium*
Permeability: *Moderate*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Measures that protect the soil from scouring and minimize the loss of crop residue by floodwaters are needed.
- Small grain crops may be damaged by flooding in winter and spring.
- A combination of surface and subsurface drainage helps to remove excess water.

Pastureland

- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.

- Flooding may result in damage to haul roads and increased maintenance costs.
- Soil wetness may limit the use of this soil by log trucks.
- Flooding restricts the safe use of roads by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- Under normal weather conditions, this soil is subject to occasional flooding. The flooding may result in physical damage and costly repairs to buildings. This soil is generally unsuited to homesites. Special design of some structures, such as farm outbuildings, may be needed to prevent damage caused by flooding.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- This soil is generally unsuited to septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Rapidly moving floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

Component Interpretive Groups

Pasture and hayland suitability group: C-3
Hydric soil: No

Sk—Shoals loam, coarse subsoil variant

Setting
Landform: *Flood plains*

Map Unit Composition
Shoals Variant and similar components: 95 percent

Similar Components
moderately well drained soils
gravelly loam surface layer
sandy loam surface layer
gravelly loam substratum

Contrasting Components
non-calcareous surface layer and subsoil: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 3.6 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 25 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Apparent
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *Occasional*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Sandy and gravelly alluvium*
Permeability: Rapid
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Negligible
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Measures that protect the soil from scouring and minimize the loss of crop residue by floodwaters are needed.
- Small grain crops may be damaged by flooding in winter and spring.
- Subsurface drainage helps to lower the seasonal high water table.
- The effectiveness of subsurface drains may be reduced because the drains can become filled with sand.
- Plant nutrients are leached at an accelerated rate because of the sandy layer.

Pastureland

- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Sandy layers in this soil increase the maintenance of haul roads and log landings.
- Flooding may result in damage to haul roads and increased maintenance costs.
- Soil wetness may limit the use of this soil by log trucks.
- Flooding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- Sandy layers may slough, thus reducing the efficiency of mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.
- Stones restrict the use of equipment during site preparation for planting or seeding.

Building Sites

- Under normal weather conditions, this soil is subject to occasional flooding. The flooding may result in physical damage and costly repairs to buildings. This soil is generally unsuited to homesites. Special design of some structures, such as farm outbuildings, may be needed to prevent damage caused by flooding.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- This soil is generally unsuited to septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Rapidly moving floodwaters may damage some components of septic systems.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

Component Interpretive Groups

Pasture and hayland suitability group: B-3
Hydric soil: No

SmA—Sleeth silt loam, loamy substratum, 0 to 3 percent slopes

Setting
Landform: *Terraces and outwash plains*

Map Unit Composition
Sleeth and similar components: 85 percent

Contrasting Components
Bennington: 3 percent
Blount soils: 3 percent
Chili soils: 3 percent
Gallman soils: 2 percent
Millgrove soils: 2 percent
moderately well drained soils: 2 percent
darker colored surface layer:
less sand in the subsoil:
slopes of 3 to 6 percent:
till below 48 inches:

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 11.7 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 5.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 80 inches
Depth to the top of the seasonal high water table: 1.0 to 3.0 feet
Water table kind: Apparent
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 3.0 percent
Parent material: Outwash
Permeability: *Moderate*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

So—Sloan silty clay loam

Setting
Landform: *Flood plains*

Map Unit Composition
Sloan and similar components: 95 percent

Similar Components
silty clay surface layer
silt loam surface layer

Contrasting Components
mucky surface layer: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3w
Prime farmland: *Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season*

Soil Properties and Qualities

Available water capacity: *About 11.3 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 19 to 29 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.0 to 0.5 feet
Water table kind: Apparent
Ponding: *Brief*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Very poorly drained*
Flooding: *Frequent*
Organic matter content in the surface layer: 3.0 to 6.0 percent
Parent material: *Loamy alluvium*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silty clay loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Winter grain crops are commonly not grown because of frequent flooding.
- Measures that protect the soil from scouring and minimize the loss of crop residue by floodwaters are needed.
- A combination of surface and subsurface drainage helps to remove excess water.

Pastureland

- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.

- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Flooding may result in damage to haul roads and increased maintenance costs.
- Soil wetness may limit the use of this soil by log trucks.
- Flooding restricts the safe use of roads by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- The frequent flooding in areas of this soil greatly increases the risk of damage associated with floodwaters. Because of the flooding, this soil is generally unsuited to building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- This soil is generally unsuited to septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Rapidly moving floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

Component Interpretive Groups

Pasture and hayland suitability group: C-3
Hydric soil: Yes

TmA—Tiro silt loam, 0 to 2 percent slopes

Setting
Landform: *Till plains*

Map Unit Composition
Tiro and similar components: 90 percent

Similar Components
gravelly upper subsoil
Wadsworth
Bennington
Fitchville

Contrasting Components
Luray soils: 5 percent
Sebring soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 11.0 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches

Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Lacustrine deposits over water modified loamy till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

TmB—Tiro silt loam, 2 to 6 percent slopes

Setting
Landform: *Till plains*

Map Unit Composition
Tiro and similar components: 90 percent

Similar Components
gravelly upper subsoil
12 to 60 inches to silty material

Contrasting Components
Luray soils: 5 percent
Sebring soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 11.0 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Lacustrine deposits over water modified loamy till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Subsurface drainage helps to lower the seasonal high water table.

Pastureland

- Erosion control is needed when pastures are renovated.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-1
Hydric soil: No

TvB—Titusville silt loam, 2 to 6 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Shoulder*

Map Unit Composition
Titusville and similar components: 95 percent

Similar Components
gravel or broken sandstone within 5 feet
stony surface
Hanover

Contrasting Components
wetter soils in depressions, seeps, and drainageways: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 4.0 inches to a depth of 21 inches*
Cation-exchange capacity of the surface layer: 7.0 to 16 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 18 to 26 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Illinoian loamy till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Erosion control is needed when pastures are renovated.

- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

TvC—Titusville silt loam, 6 to 12 percent slopes

Setting
Landform: *Hills on till plains*

Map Unit Composition
Titusville and similar components: 95 percent

Similar Components
eroded areas
stones and boulders on the surface
broken sandstone at 3 to 5 feet
Hanover

Contrasting Components
wetter soils around springs and seeps and in drainageways: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 4.0 inches to a depth of 21 inches*
Cation-exchange capacity of the surface layer: 7.0 to 16 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 18 to 26 inches
Depth to the top of the seasonal high water table: 1.5 to 2.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Moderately well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Illinoian loamy till*
Permeability: *Moderately slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff*: High*
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- The root systems of plants may be damaged by frost action.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

Uc—Udorthents

Setting

Landform: *Cuts (road, railroad, etc.)*

Map Unit Composition
Udorthents and similar components: 100 percent

Map Unit Interpretive Groups
Land capability classification: None assigned
Prime farmland: *Not prime farmland*

Use and Management Considerations

- Onsite investigation is needed to determine the suitability for specific uses.

Component Interpretive Groups

Pasture and hayland suitability group: Not rated
Hydric soil: No

Ud—Udorthents, loamy

Setting
Landform: *Cuts (road, railroad, etc.)*

Map Unit Composition
Udorthents and similar components: 100 percent

Map Unit Interpretive Groups

Land capability classification: None assigned
Prime farmland: *Not prime farmland*

Use and Management Considerations

- Onsite investigation is needed to determine the suitability for specific uses.

Component Interpretive Groups

Pasture and hayland suitability group: Not rated
Hydric soil: No

Ur—Urban land

Setting
Landform: *None assigned*

Map Unit Composition
Urban land and similar components: 100 percent

Use and Management Considerations

- Onsite investigation is needed to determine the suitability for specific uses.

Component Interpretive Groups

Hydric soil: *Unranked*

WaA—Wadsworth silt loam, 0 to 2 percent slopes

Setting
Landform: *Depressions on till plains*

Map Unit Composition
Wadsworth and similar components: 95 percent

Similar Components
bedrock or gravel below 4 feet

Contrasting Components
Frenchtown soils: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3w
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 3.9 inches to a depth of 20 inches*
Cation-exchange capacity of the surface layer: 14 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 16 to 28 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture

stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The movement of water into subsurface drains is restricted. Drainage guides can be used to determine tile spacing requirements.
- Subsurface drainage helps to lower the seasonal high water table.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-2
Hydric soil: No

WaB—Wadsworth silt loam, 2 to 6 percent slopes

Setting
Landform: *Drainageways on till plains*

Map Unit Composition
Wadsworth and similar components: 90 percent

Similar Components
stony or gravelly surface
eroded areas
Rittman

Contrasting Components
Frenchtown soils: 5 percent
ponded areas: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Prime farmland if drained*

Soil Properties and Qualities

Available water capacity: *About 3.9 inches to a depth of 20 inches*
Cation-exchange capacity of the surface layer: 14 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 16 to 28 inches
Depth to the top of the seasonal high water table: 0.5 to 1.5 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Somewhat poorly drained*
Flooding: *None*
Organic matter content in the surface layer: 2.0 to 4.0 percent
Parent material: *Wisconsinan loamy basal till*
Permeability: *Very slow*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- The root system of winter grain crops may be damaged by frost action.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The movement of water into subsurface drains is restricted. Drainage guides can be used to determine tile spacing requirements.
- Subsurface drainage helps to lower the seasonal high water table.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require

some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: C-2
Hydric soil: No

Wc—Wallkill silt loam

Setting
Landform: *Depressions on flood plains*

Map Unit Composition
Wallkill and similar components: 100 percent

Similar Components
muck less than 10 inches thick
muck greater than 30 inches deep
muck less than 18 inches deep
loam surface layer

Map Unit Interpretive Groups
Land capability classification: 3w
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 13.1 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 15 to 30 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: 0.0 to 0.5 feet
Water table kind: Apparent
Ponding: *Brief*
Depth of ponding: *0.0 to 1.0 feet*
Drainage class: *Very poorly drained*
Flooding: *Frequent*
Organic matter content in the surface layer: 4.0 to 12.0 percent
Parent material: *Loamy alluvium over organic material*
Permeability: *Moderate*
Potential frost action: High
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- The root system of winter grain crops may be damaged by frost action.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Winter grain crops are commonly not grown because of frequent flooding.
- Measures that protect the soil from scouring and minimize the loss of crop residue by floodwaters are needed.
- A combination of surface and subsurface drainage helps to remove excess water.

Pastureland

- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- The root systems of plants may be damaged by frost action.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- Standing water can inhibit the growth of some species of seedlings by restricting root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Flooding may result in damage to haul roads and increased maintenance costs.
- Soil wetness may limit the use of this soil by log trucks.
- Flooding restricts the safe use of roads by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- The frequent flooding in areas of this soil greatly increases the risk of damage associated with floodwaters. Because of the flooding, this soil is generally unsuited to building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally unsuited to building site development.

Septic Tank Absorption Fields

- This soil is generally unsuited to septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Rapidly moving floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally unsuited to use as a site for septic tank absorption fields.

Local Roads and Streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

Component Interpretive Groups

Pasture and hayland suitability group: C-3
Hydric soil: Yes

WeD—Westmoreland silt loam, 12 to 18 percent slopes

Setting
Landform: *unglaciated hill*
Position on the landform*: Backslope*

Map Unit Composition
Westmoreland and similar components: 80 percent

Contrasting Components
Coshocton soils: 10 percent
Gilpin soils: 10 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 5.6 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 15 to 25 meq per 100 grams
Depth class: *Deep or very deep*
Depth to root restrictive feature: *Bedrock (lithic): 40 to 80 inches*
Depth to the top of the seasonal high water table: Greater than 5.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*

Organic matter content in the surface layer: 1.0 to 4.0 percent
Parent material: *Loamy colluvium derived from sandstone and siltstone over loamy residuum weathered from sandstone and siltstone*
Permeability: Moderate in the soil and rapid in the underlying material
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.
- Removing excess water can reduce the possibility of soil slippage.
- Slippage may cause uneven slopes, which can affect equipment use and the grazing patterns of animals.
- Slips may effect fencing patterns and increase the cost of maintaining fences and buried water pipelines.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The potential for slippage may interfere with the construction and use of haul roads and log landings and creates unsafe operating conditions.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.
- Burning may destroy organic matter.

Building Sites

- The hazard of slippage increases the risk of mass soil movement. Sites subject to slippage are generally unsuited to building site development.

Septic Tank Absorption Fields

- The limited depth to bedrock reduces the filtering capacity of the soil and greatly increases the difficulty of proper installation of the effluent distribution lines.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.
- The moderate permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.

- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: B-1
Hydric soil: No

WhA—Wheeling silt loam, 0 to 2 percent slopes

Setting
Landform: *Terraces and lake plains*

Map Unit Composition
Wheeling and similar components: 100 percent

Similar Components
slopes of more than 2 percent
Chili
Bogart

Map Unit Interpretive Groups
Land capability classification: 1
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.2 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 7.0 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Lacustrine deposits*
Permeability: *Moderate in the subsoil, rapid in the underlying material*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- This soil is well suited to pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- This soil is well suited to use as building sites.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

WhB—Wheeling silt loam, 2 to 6 percent slopes

Setting
Landform: *Terraces and lake plains*

Map Unit Composition
Wheeling and similar components: 100 percent

Similar Components
broken sandstone at 4 to 5 feet
Chili
Bogart

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.2 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 7.0 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Lacustrine deposits*
Permeability: *Moderate in the subsoil, rapid in the underlying material*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Erosion control is needed when pastures are renovated.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- This soil is well suited to use as building sites.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

WhC—Wheeling silt loam, 6 to 12 percent slopes

Setting
Landform: *Terraces and lake plains*

Map Unit Composition
Wheeling and similar components: 100 percent

Similar Components
soils underlain by angular sandstone fragments
Chili
eroded areas

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.2 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 7.0 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Lacustrine deposits*
Permeability: *Moderate in the subsoil, rapid in the underlying material*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.
- The slope influences the use of machinery and the amount of excavation required.

Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

WmD—Wheeling and Mentor silt loams, 12 to 18 percent slopes

Setting
Landform: *Terraces and lake plains*

Map Unit Composition
Mentor and similar components: 0 to 96 percent
Wheeling and similar components: 0 to 96 percent

Similar Components
slopes of more than 18 percent
slopes of less than 12 percent
shattered sandstone at 3 to 5 feet
eroded areas

Contrasting Components
wetter soils around seeps and springs: 4 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

MENTOR

Soil Properties and Qualities

Available water capacity: *About 10.9 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 20 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Silty lacustrine deposits*
Permeability: *Moderate*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.

- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

WHEELING

Soil Properties and Qualities

Available water capacity: *About 8.2 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 7.0 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Lacustrine deposits*
Permeability: *Moderate in the subsoil, rapid in the underlying material*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: A-1
Hydric soil: No

WsB—Wooster silt loam, 2 to 6 percent slopes

Setting
Landform: *Hills on till plains*
Position on the landform*: Summit*

Map Unit Composition
Wooster and similar components: 95 percent

Similar Components
stony soils with solid bedrock within 40 inches
Canfield

Contrasting Components
wetter soils in drainageways: 5 percent

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 4.4 inches to a depth of 24 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 30 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam

Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- This soil is well suited to use as building sites.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

WsB2—Wooster silt loam, 2 to 6 percent slopes, moderately eroded

Setting
Landform: *Hills on till plains*
Position on the landform*: Summit*

Map Unit Composition
Wooster and similar components: 100 percent

Similar Components
broken rock below 4 feet
Canfield

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

Soil Properties and Qualities

Available water capacity: *About 4.4 inches to a depth of 24 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 30 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow*

Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- This soil is well suited to use as building sites.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

WsC—Wooster silt loam, 6 to 12 percent slopes

Setting
Landform: *Till plains*
Position on the landform: *Summit and backslope*

Map Unit Composition
Wooster and similar components: 95 percent

Similar Components
eroded areas
Chili
Loudonville
Canfield

Contrasting Components
wetter soils around springs and seeps and in drainageways: 5 percent

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 4.4 inches to a depth of 24 inches*

Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 30 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

WsC2—Wooster silt loam, 6 to 12 percent slopes, moderately eroded

Setting
Landform: *Till plains*
Position on the landform: *Backslope and summit*

Map Unit Composition
Wooster and similar components: 100 percent

Similar Components
stony soils
bedrock at 40 to 60 inches
Canfield

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

Soil Properties and Qualities

Available water capacity: *About 4.4 inches to a depth of 24 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 30 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.

- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

WsD—Wooster silt loam, 12 to 18 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Wooster and similar components: 95 percent

Similar Components
gravelly soils with a few large stones on the surface
bedrock at 40 to 60 inches
Loudonville
Canfield

Contrasting Components
wetter soils around springs and seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 4.4 inches to a depth of 24 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 30 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.

- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

WsD2—Wooster silt loam, 12 to 18 percent slopes, moderately eroded

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Wooster and similar components: 85 percent

Similar Components
stony soils
bedrock at 40 to 60 inches
Canfield

Contrasting Components
soils similar to Holly: 5 percent
soils similar to Pewamo: 5 percent
wetter soils around springs and seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 4.4 inches to a depth of 24 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 30 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.

- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

WsD3—Wooster silt loam, 12 to 18 percent slopes, severely eroded

Setting
Landform: *Till plain*
Position on the landform*: Backslope*

Map Unit Composition
Wooster and similar components: 85 percent

Similar Components
stony soils
bedrock at 40 to 60 inches
Canfield

Contrasting Components
soils similar to Holly: 5 percent
soils similar to Pewamo: 5 percent
wetter soils around springs and seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 4e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 4.4 inches to a depth of 24 inches*
Cation-exchange capacity of the surface layer: 6.0 to 15 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 30 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 1.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Erosion has removed part of the surface soil, and the remaining surface soil is less productive and more difficult to manage.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

WsE—Wooster silt loam, 18 to 25 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Wooster and similar components: 85 percent

Similar Components
mixed layers due to tree throw
boulders on the surface
gravelly and stony soils
bedrock at 30 inches
bedrock at 60 inches

Contrasting Components
soils similar to Holly: 4 percent
soils similar to Shoals: 4 percent
wetter soils around springs and seeps: 4 percent
gullied areas: 3 percent

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 4.4 inches to a depth of 24 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 30 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- The slope may restrict the use of some mechanical planting equipment.

- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

WsE2—Wooster silt loam, 18 to 25 percent slopes, eroded

Setting
Landform: *Hillslopes on end moraines and ground moraines*
Position on the landform*: Backslope*

Map Unit Composition
Wooster and similar components: 85 percent

Contrasting Components
Bennington: 5 percent
Shoals soils: 5 percent
areas underlain by sandstone bedrock: 5 percent
gray mottles above the fragipan:
weak or no fragipan:

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 8.1 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 80 inches
Depth to the top of the seasonal high water table: 2.5 to 4.0 feet
Water table kind: Perched
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: Till
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Low
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the

soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- The slope may restrict the use of some mechanical planting equipment.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.
- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. Special design of structures is needed to prevent damage caused by wetness.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

WsF—Wooster silt loam, 25 to 40 percent slopes

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Wooster and similar components: 85 percent

Similar Components
bedrock at 60 inches
bedrock at 60 inches
stones and boulders on the surface

Contrasting Components
soils similar to Holly: 5 percent
soils similar to Shoals: 5 percent
wetter soils around springs and seeps: 5 percent

Map Unit Interpretive Groups
Land capability classification: 6e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 4.4 inches to a depth of 24 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 30 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.

- The slope may restrict the use of some farm equipment.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- Because of the slope, the use of mechanical planting equipment is not practical.
- The slope restricts the use of equipment for preparing this site for planting and seeding.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-4
Hydric soil: No

WtB—Wooster-Chili soils, 2 to 6 percent slopes

Setting
Landform: *Hills on till plains*

Map Unit Composition
Wooster and similar components:
Chili and similar components:

Similar Components
eroded areas
Canfield

Map Unit Interpretive Groups
Land capability classification: 2e
Prime farmland: *All areas are prime farmland*

WOOSTER

Soil Properties and Qualities

Available water capacity: *About 4.4 inches to a depth of 24 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 30 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate

Surface layer texture: Silt loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building Sites

- This soil is well suited to use as building sites.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

CHILI

Soil Properties and Qualities

Available water capacity: *About 5.0 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 16 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: Outwash
Permeability: *Moderately rapid*
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Very low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Grassed waterways can be used in some areas to slow and direct the movement of water and reduce erosion.
- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.

- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- Rock fragments obstruct the use of mechanical planting equipment.

Building Sites

- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.
- This soil is well suited to use as building sites.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.

Local Roads and Streets

- This soil is well suited to use as a site for local roads and streets.

Component Interpretive Groups

Pasture and hayland suitability group: B-1
Hydric soil: No

WtC—Wooster-Chili soils, 6 to 12 percent slopes

Setting
Landform: *Hills on till plains*

Map Unit Composition
Wooster and similar components:
Chili and similar components:

Similar Components
eroded areas
Canfield

Map Unit Interpretive Groups
Land capability classification: 3e
Prime farmland: *Farmland of local importance*

WOOSTER

Soil Properties and Qualities

Available water capacity: *About 4.4 inches to a depth of 24 inches*
Cation-exchange capacity of the surface layer: 10 to 18 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 30 inches
Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: Medium
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.

- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The rooting depth of crops is restricted by dense soil material.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines and seepage of poorly treated effluent is a concern.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-3
Hydric soil: No

CHILI

Soil Properties and Qualities

Available water capacity: *About 5.0 inches to a depth of 60 inches*
Cation-exchange capacity of the surface layer: 8.0 to 16 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Greater than 60 inches
Depth to the top of the seasonal high water table: Greater than 6 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 1.0 to 3.0 percent
Parent material: Outwash
Permeability: *Moderately rapid*
Potential frost action: Low
Shrink-swell potential: Low
Surface layer texture: Loam
Potential for surface runoff: Low
Wind erosion hazard: Slight

Use and Management Considerations

Cropland

- Using a system of conservation tillage and planting cover crops reduce the runoff rate and help to minimize soil loss by erosion.
- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments obstruct the use of mechanical planting equipment.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs may be required to ensure satisfactory performance.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic Tank Absorption Fields

- The excessive permeability limits the proper treatment of the effluent from septic systems in areas of this soil. The poorly treated effluent may pollute the water table in the area of the absorption field.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: B-1
Hydric soil: No

WvE3—Wooster silt loam, 18 to 40 percent slopes, severely eroded

Setting
Landform: *Till plains*
Position on the landform*: Backslope*

Map Unit Composition
Wooster and similar components: 85 percent

Contrasting Components
soils similar to Holly: 5 percent
soils similar to Shoals: 5 percent
vertical banks cut by streams: 5 percent

Map Unit Interpretive Groups
Land capability classification: 7e
Prime farmland: *Not prime farmland*

Soil Properties and Qualities

Available water capacity: *About 4.4 inches to a depth of 24 inches*
Cation-exchange capacity of the surface layer: 6.0 to 15 meq per 100 grams
Depth class: *Very deep*
Depth to root restrictive feature: Fragipan: 20 to 30 inches

Depth to the top of the seasonal high water table: Greater than 4.0 feet
Ponding: *None*
Drainage class: *Well drained*
Flooding: *None*
Organic matter content in the surface layer: 0.5 to 1.0 percent
Parent material: *Wisconsinan loamy till*
Permeability: *Moderately slow*
Potential frost action: Moderate
Shrink-swell potential: Moderate
Surface layer texture: Silt loam
Potential for surface runoff: High
Wind erosion hazard: Slight

Use and Management Considerations

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- The slope may restrict the use of some farm equipment.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of conservation tillage when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The slope increases excavation costs, poses safety hazards, and creates a potential for erosion during construction of haul roads and log landings.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of harvesting and mechanical planting equipment.
- Because of the slope, the use of mechanical planting equipment is not practical.
- The slope restricts the use of equipment for preparing this site for planting and seeding.
- A loss of soil productivity may occur following an episode of fire.

Building Sites

- The slope influences the use of machinery and the amount of excavation required. Special building practices and designs are required to ensure satisfactory performance.

Septic Tank Absorption Fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- Because of the slope, special design and installation techniques are needed for the effluent distribution lines.

Local Roads and Streets

- Local roads and streets may be damaged by frost action, which is caused by the freezing and thawing of soil moisture.
- Special design of roads and streets is needed to prevent the structural damage caused by low soil strength.
- Because of the slope, designing local roads and streets is difficult.

Component Interpretive Groups

Pasture and hayland suitability group: F-4
Hydric soil: No

Important Farmland

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, woodland, 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, 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.

Most of the prime farmland in the county is used as cropland. Urbanization in and around cities and along interstate corridors account for the majority of prime farmland lost to agricultural uses.

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 5 (p. 325). These lists do not constitute a recommendation for a particular land use. On some soils included in the lists, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4 (p. 321). 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."

Unique Farmland

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops. It has the special combination of soil qualities, location, growing season, and moisture supply needed for the economic production of sustained high yields of a specific high-quality crop when treated and managed by acceptable farming methods. Examples of such crops are tree fruits, berries, and vegetables.

Unique farmland has an adequate supply of available moisture for the specific crops for which it is used because of stored moisture, precipitation, or irrigation and has a combination of soil qualities, growing season, temperature, humidity, air drainage, elevation, aspect, and other factors, such as nearness to markets, that favors the production of a specific food or fiber crop.

Lists of unique farmland are developed as needed in cooperation with conservation districts and others.

Additional Farmland of Statewide Importance

Some areas other than areas of prime farmland and unique farmland are of statewide importance in the production of food, feed, fiber, forage, and oilseed crops. The criteria used in defining and delineating these areas are determined by the appropriate state agency or agencies. Generally, additional farmland of statewide importance includes areas that nearly meet the criteria for prime farmland and that economically produce high yields of crops when treated and managed by acceptable farming methods. Some areas can produce as high a yield as areas of prime farmland if conditions are favorable. In some states additional farmland of

Figure 4. Filterstrips are used along streams to remove contaminants entering streams from adjacent cropland.

statewide importance may include tracts of land that have been designated for agriculture by state law.

Additional Farmland of Local Importance

This land consists of areas that are of local importance in the production of food, feed, fiber, forage, and oilseed crops and are not identified as having national or statewide importance. Where appropriate, this land is identified by local agencies. It may include tracts of land that have been designated for agriculture by local ordinance.

The following map units have been identified as “locally important” in Richland County:

AdC—Alexandria silt loam, 6 to 12 percent slopes
AdC2—Alexandria silt loam, 6 to 12 percent slopes, moderately eroded
BeC—Belmore loam, 6 to 12 percent slopes
CdC—Canfield silt loam, 6 to 12 percent slopes
CdC2—Canfield silt loam, 6 to 12 percent slopes, moderately eroded
CgC—Cardington silt loam, 6 to 12 percent slopes
CgC2—Cardington silt loam, 6 to 12 percent slopes, moderately eroded
CnC—Chili loam, 6 to 12 percent slopes
CtC—Conotton gravelly loam, 2 to 12 percent slopes
GfC—Glenford silt loam, 6 to 12 percent slopes
HfC—Hanover silt loam, 6 to 12 percent slopes
HfC2—Hanover silt loam, 6 to 12 percent slopes, moderately eroded
Ho—Holly silt loam (where not prime)
LrC—Lordstown silt loam, 6 to 12 percent slopes
LvC—Loudonville silt loam, 6 to 12 percent slopes
RsC—Rittman silt loam, 6 to 12 percent slopes
RsC2—Rittman silt loam, 6 to 12 percent slopes, moderately eroded
So—Sloan silty clay loam (where not prime)
TvC—Titusville silt loam, 6 to 12 percent slopes
Wc—Wallkill silt loam
WsC—Wooster silt loam, 6 to 12 percent slopes
WsC2—Wooster silt loam, 6 to 12 percent slopes, moderately eroded
WtC—Wooster-Chili soils, 6 to 12 percent slopes

Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed in table 6 (p. 327).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 1998) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 1998).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

The map units in table 6 (p. 327) meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 1998).

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 map units in table 7 (p. 328), in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

Soil Quality

Prepared by Natural Resources Conservation Service, Soil Quality Institute, Ames, Iowa.

SOIL QUALITY is how well soil does what we want it to do. More specifically, soil quality is the capacity of a specific kind of soil to function, within natural or managed ecosystem boundaries, to sustain plant and animal productivity, maintain or enhance water and air quality, and support human health and habitation.

Figure 5 . Example of a quality soil.

People have different ideas of what a quality soil is. For example: for people active in production agriculture, it may mean highly productive land, sustaining or enhancing productivity, maximizing profits, or maintaining the soil resource for future generations; for consumers, it may mean plentiful, healthful, and inexpensive food for present and future generations; for naturalists, it may mean soil in harmony with the landscape and its surroundings; for the environmentalist, it may mean soil functioning at its potential in an ecosystem with respect to maintenance or enhancement of biodiversity, water quality, nutrient cycling, and biomass production.

What Does Soil Do?

Healthy soil gives us clean air and water, bountiful crops and forests, productive rangeland, diverse wildlife, and beautiful landscapes. Soil does all this by performing five essential functions:

- Regulating water. Soil helps control where rain, snowmelt, and irrigation water goes. Water and dissolved solutes flow over the land or into and through the soil.
- Sustaining plant and animal life. The diversity and productivity of living things depends on soil.
- Filtering potential pollutants. The minerals and microbes in soil are responsible for filtering, buffering, degrading, immobilizing, and detoxifying organic and inorganic materials, including industrial and municipal by-products and atmospheric deposits.
- Cycling nutrients. Carbon, nitrogen, phosphorus, and many other nutrients are stored, transformed, and cycled through soil.
- Supporting structures. Buildings need stable soil for support, and archeological treasures associated with human habitation are protected in soils.

Here are some examples of indicators of soil quality:

Indicator	Relationship to Soil Health
Soil organic matter (SOM)	Soil fertility, structure, stability, nutrient retention; soil erosion.
PHYSICAL: Soil structure, depth of soil, Infiltration and bulk density; water holding capacity	Retention and transport of water and nutrients; habitat for microbes; estimate of crop productivity potential; compaction, plow pan, water movement; porosity; workability.
CHEMICAL: pH; electrical conductivity; extractable N-P-K	Biological and chemical activity thresholds; plant and microbial activity thresholds; plant available nutrients and potential for N and P loss.
BIOLOGICAL: Microbial biomass C and N; potentially mineralizable N; soil respiration.	Microbial catalytic potential and repository for C and N; soil productivity and N supplying potential; microbial activity measure

Soil Has Both Inherent and Dynamic Quality.

Inherent soil quality is a soil's natural ability to function. For example, sandy soils drain faster than clayey soils. Deep soils will have more room for roots than soils with bedrock near the surface. These characteristics do not change easily.

Dynamic soil quality is how soil changes depending on how it is managed. Management choices affect the amount of soil organic matter, soil structure, soil depth, water and nutrient holding capacity. One goal of soil quality research is to learn how to manage soil in a way that improves soil function. Soils respond differently to management depending on the inherent properties of the soil and the surrounding landscape.

Soil Quality is Linked to Sustainability.

Understanding soil quality means assessing and managing soil so that it functions optimally now and is not degraded for future use. By monitoring changes in soil quality, a land manager can determine if a set of practices are sustainable.

Assessing Soil Quality

Soil quality is an assessment of how well soil performs all of its functions. It cannot be determined by measuring only crop yield, water quality, or any other single outcome. The quality of a soil is an assessment of how it performs all of its functions now and how those functions are being preserved for future use.

Soil quality cannot be measured directly, so we evaluate indicators. Indicators are measurable properties of soil or plants that provide clues about how well the soil can function. Indicators can be physical, chemical, and biological characteristics.

Useful indicators :

- are easy to measure
- measure changes in soil functions
- encompass chemical, biological, and physical properties
- are accessible to many users and applicable to field conditions
- are sensitive to variations in climate and management.

Indicators can be assessed by qualitative or quantitative techniques. After measurements are collected, they can be evaluated by looking for patterns and comparing results to measurements taken at a different time or field.

Soil Quality is Not an End in Itself.

The ultimate purpose of researching and assessing soil quality is not to achieve high aggregate stability, biological activity, or some other soil property. The purpose is to protect and improve long-term agricultural productivity, water quality, and habitats of all organisms including people. We use soil characteristics as indicators of soil quality, but in the end, soil quality must be identified by how it performs its functions.

Managing for Soil Quality

Each combination of soil type and land use calls for a different set of practices to enhance soil quality. Yet, several principles apply in most situations.

1. Add organic matter. Regular additions of organic matter are linked to many aspects of soil quality. Organic matter may come from crop residues at the surface, roots of cover crops, animal manure, green manure, compost, and others. Organic matter, and the organisms that eat it, can improve water holding capacity, nutrient availability, and can help protect against erosion.

2. Avoid excessive tillage. Tillage has positive effects, but it also triggers excessive organic matter degradation, disrupts soil structure, and can cause compaction. For more information about conservation tillage, visit the Conservation Tillage Information Center site.

3. Carefully manage fertilizer and pesticide use. In this century, pesticides and chemical fertilizers have revolutionized U.S. agriculture. In addition to their desired effects, they can harm non-target organisms and pollute water and air if they are mismanaged. Nutrients from organic sources also can become pollutants when misapplied or over-applied. On the positive side, fertilizer can increase plant growth and the amount of organic matter returned to the soil.

4. Increase ground cover. Bare soil is susceptible to wind and water erosion, and to drying and crusting. Ground cover protects

soil, provides habitats for larger soil organisms, such as insects and earthworms, and can improve water availability. Cover crops, perennials, and surface residue increase the amount of time that the soil surface is covered each year.

5. Increase plant diversity. Diversity is beneficial for several reasons. Each crop contributes a unique root structure and type of residue to the soil. A diversity of soil organisms can help control pest populations, and a diversity of cultural practices can reduce weed and disease pressures. Diversity across the landscape and over time can be increased by using buffer strips, small fields, contour strip cropping, crop rotations, and by varying tillage practices. Changing vegetation across the landscape or over time increases plant diversity, and the types of insects, microorganisms, and wildlife that live on your farm.

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 woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Interpretative ratings help engineers, planners, and others understand how soil properties influence important nonagricultural uses, such as building site development and construction materials. The ratings indicate the most restrictive soil features affecting the suitability of the soils for these uses.

Soils are rated in their natural state. No unusual modification of the soil site or material is made other than that which is considered normal practice for the rated use. Even though soils may have limitations, it is important to remember that engineers and others can modify soil features or can design or adjust the plans for a structure to compensate for most of the limitations. Most of these practices, however, are costly. The final decision in selecting a site for a particular use generally involves weighing the costs of site preparation and maintenance.

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.

The classification of the soils in this survey area are shown in table 33 (p. 714). The extent of the soils are shown in table 4 (p. 321).

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are not limited, somewhat limited, and very limited. The suitability ratings are expressed as well suited, moderately suited, poorly suited, and unsuited or as good, fair, and poor.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Cropland Limitations and Hazards

The management concerns affecting the use of the detailed map units in the survey area for crops are shown in table 8 (p. 333). The main concerns in managing nonirrigated cropland are controlling flooding and water erosion, preventing ground-water pollution, removing excess water,

Figure 6. Rock inlets are installed to reduce the movement of sediments into streams and rivers.

reducing surface crusting, reducing compaction, and maintaining soil tilth, organic matter, and fertility.

Generally, a combination of several practices is needed to control water erosion. Conservation tillage, stripcropping, contour farming, conservation cropping systems, crop residue management, diversions, and grassed waterways help to prevent excessive soil loss.

Surface and/or subsurface drainage is used to remove excess water, lower seasonal high water tables, and to reduce ponding.

A surface crust forms in tilled areas after hard rains and may inhibit seedling emergence. Regular additions of crop residue, manure, or other organic materials help to improve soil structure and minimize crusting.

Tilling within the proper range in moisture content minimizes compaction.

Measures that are effective in maintaining soil tilth, organic matter, and fertility include applying fertilizer, both organic and inorganic, including manure; incorporating crop residue or green manure crops into the soil; and using proper crop rotations. Controlling erosion helps to prevent the loss of organic matter and plant nutrients and thus helps to maintain productivity, although the level of fertility can be reduced even in areas where erosion is controlled. All soils used for nonirrigated crops respond well to applications of fertilizer.

Some of the limitations and hazards shown in the table cannot be easily overcome. These are flooding, ponding, slope, limited organic matter content, and depth to bedrock.

Flooding.—Flooding can damage winter grain and forage crops. A tillage method that partly covers crop residue and leaves a rough or ridged surface helps to prevent removal of crop residue by floodwater. Tilling and planting should be delayed in the spring until flooding is no longer a hazard.

Ponding.—Surface drains helps to remove excess surface water and reduce damage from ponding.

Slope.—Where the slope is more than 25 percent, water erosion is excessive. The selection of crops and use of equipment is limited.

Cultivation may be restricted.

Limited organic matter content.—Many soils that have a light colored surface layer have a low or moderately low organic matter content and weak or moderate structure. Regularly adding crop residue, manure, and other organic matter materials to the soil maintains or improves the organic matter content and the soil structure.

Depth to bedrock.—Rooting depth and available moisture may be limited by bedrock within a depth of 40 inches.

Additional limitations and hazards are as follows:

Potential for ground–water pollution.—This is a hazard in soils with excessive permeability, moderately deep or shallow bedrock, or a water table within the profile.

Limited available water capacity, poor tilth, restricted permeability, and surface crusting.—These limitations can be overcome by incorporating green manure crops, manure, or crop residue into the soil; applying a system of conservation tillage; and using conservation cropping systems.

Frost action.—Frost action can damage deep rooted legumes and some small grains.

Sandy layers.—Deep leaching of nutrients and pesticides may result from sandy layers. Crops generally respond better to smaller, more frequent applications of fertilizer and lime than to one large application.

Clodding. —Clods may inhibit germination, reduce water infiltration and increase runoff.

Subsidence of the muck. —Subsidence or shrinking occurs as a result of oxidation in the muck after the soil is drained. Control of the water table by subirrigation through subsurface drain lines reduces the hazards of subsidence, burning, and soil blowing.

High clay content.—The high clay content in the soil reduces rooting depth and water movement.

Root restrictive layers.—Root restrictive layers limit root growth and water movement.

Excessive alkalinity.—High pH in the upper part of the soil may inhibit plant growth and reduce availability of potassium and micronutrients.

Excessive acidity.—Low pH in the upper part of the soil may increase concentrations of aluminum and manganese and may injure plants.

Gravelly surface.—This limitation causes rapid wear of tillage equipment. It cannot be easily overcome.

Stony surface.—Stones or boulders on the surface can hinder normal tillage unless they are removed.

Following is an explanation of the criteria used to determine the limitations or hazards for cropland.

Easily eroded.—The surface K factor multiplied by the relative value of the slope is more than 2 (same as prime farmland criteria).

Erosion hazard.—The relative value of the slope is greater than 2.

Frequent flooding.—The component of the map unit is frequently flooded.

Occasional flooding.—The component of the map unit is occasionally flooded.

Limited available water capacity.—The available water capacity calculated to a depth of 60 inches or to a root-limiting layer is 6 inches or less.

Ponding.—Ponding duration is assigned to the component of the map unit.

Ponded for extended periods.—Very long ponding duration is assigned to the component of the map unit.

Gravelly surface. —The surface texture has flaggy, very flaggy, extremely flaggy, very gravelly, extremely gravelly, or very channery modifier.

Stony surface.—The surface texture has bouldery, very bouldery, extremely bouldery, stony, very stony, extremely stony, cobbly, very cobbly, or extremely cobbly modifier.

Sandy layers.—The family particle size is sandy, sandy or sandy-skeletal, sandy over loamy, sandy over clayey, sandy-skeletal, sandy-skeletal over clayey, or sandy-skeletal over loamy; or the subgroup is Arenic or Psammentic; or the suborder is Psamments.

Depth to bedrock.—Bedrock is at a depth of less than 40 inches.

High potential for ground–water pollution.—Hard bedrock is within a depth of 40 inches, or permeability is more than 6 inches per hour in some layer within a depth of 80 inches and is not 0.2 inch per hour or less in some layer within that depth.

Moderate potential for ground water pollution.—An apparent water table is within a depth of 4 feet, or permeability is moderately rapid in some layer between depths of 24 and 60 inches and is not 0.2 inch per hour or less in some layer within a depth of 80 inches.

Poor tilth. —The component of the map unit is severely eroded, has less than 1 percent organic matter in the surface layer, or 35 percent or more clay in the surface layer.

Fair tilth.—The component of the map unit has

a silty clay loam or clay loam surface layer and less than 35 percent clay or moderately eroded and a silt loam or loam surface texture.

Excessive acidity.—The upper range of the soil pH is less than 4.5 within 40 inches.

Excessive alkalinity.—The lower range of the soil pH is more than 7.9 within 40 inches.

Restricted permeability.—Permeability is 0.06 inches per hour or less within 40 inches and a seasonal high water table is within 18 inches.

Seasonal high water table.—The seasonal high water table is within a depth of 18 inches.

Excessive slope.—The upper slope range of the component of the map unit is more than 25 percent.

Surface crusting.—The organic matter content of the surface layer is less than or equal to 3 percent and the texture is silt loam or silty clay loam.

Surface compaction. —The component of the map unit has a silt loam, silty clay loam, clay loam, clay, or silty clay surface layer.

Frost action.—The component of the map unit has a high potential frost action.

Part of surface removed.—The surface layer of the component of the map unit is moderately eroded.

Most of surface removed.—The surface layer of the component of the map unit is severely eroded.

Subsidence of the muck. —The organic matter content of the surface layer of the component of the map unit is greater than or equal to 20 percent.

Wind erosion.—The upper range of the slope is less than or equal to 25 percent and the wind erodibility group is 1, 2, or 3.

Clodding. —The relative value of the total clay in the surface layer is greater than 32 percent.

Root restrictive layer.—Fragipan or dense material within 40 inches.

High clay content.—A layer within 40 inches of the surface has clay content that averages between 40 and 60 percent.

Very high clay content. —A layer within 40 inches of the surface has clay content that averages more than 60 percent.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The system of land capability classification used by the Natural Resources Conservation Service is explained below.

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.

Crop Yield Index

Table 9 (p. 343) is the crop yield index for Richland County. The yield index reflects the yield potential of a soil in relation to other soils in the county. It is based on the most productive soil, KbA—Kibbie loam, 0 to 2 percent slopes, receiving a rating of 100, and other soils are ranked against this standard.

The yields used to calculate the index values are based on using good management practices.

To calculate estimated yields, use the yield index number as a percentage, and multiply it by the crop yield in the table header. For example, to calculate estimated corn yield for AdB, multiply 0.82 by the corn yield in the table header, which is 130. 0.82 x 130 = 107 bushels of corn estimated for BlA.

To use this yield index in the future to calculate estimated yields, use current yield data. Additional information on calculating estimated yields can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for woodland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The

classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.
Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.
Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.
Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.
Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, woodland, or wildlife habitat.
Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, woodland, or wildlife habitat.
Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, woodland, or wildlife habitat.
Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or aesthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, woodland, wildlife habitat, or recreation.

The acreage of soils in each capability class or subclass is shown in table 10 (p. 350). The capability classification of map units in this survey area is given in the section "Detailed Soil Map Units" and in the yields table.

Pasture and Hayland Suitability Groups

The pasture and hayland suitability group symbol for each soil is listed in each map unit description under the "Component interpretative groups" heading and in table 34 (p. 715). Soils assigned the same suitability group symbol require the same general management and have about the same potential productivity. The pasture and hayland suitability groups are organized by soil characteristics and limitations. The groups are defined as follows:

Group A soils have few limitations affecting the management and growth of climatically adapted plants.

Group A-1 consists of deep and very deep, well and moderately well drained soils. The available water capacity ranges from moderate to very high. Slopes range from 0 to 18 percent. Plants on these soils respond well to additions of lime. Frequent applications may be needed to maintain an adequate pH level. A low pH level in the subsoil shortens the life of some deep-rooted legumes.
Group A-2 consists of deep and very deep, well and moderately well drained soils. Available water capacity ranges from moderate to very high. Plants on these soils respond well to additions of lime. Frequent applications may be needed to maintain an adequate pH level. A low pH level in the subsoil shortens the life of some deep-rooted legumes. Slopes range from 18 to 25 percent. They may interfere with clipping, mowing, and spraying for weed control. The slopes increase the risk of erosion if the pasture is overgrazed or cultivated for reseeding. These soils are suited to no-till reseeding and interseeding.
Group A-3 consists of deep and very deep, well and moderately well drained soils. Available water capacity ranges from moderate to very high. Slopes range from 25 to 40 percent. These soils are not suited to pasture or hay, but some grass pasture is produced.
Group A-4 consists of deep and very deep, well and moderately well drained soils that have stones or boulders on the surface that are extensive enough to preclude the use of hay making equipment. Slopes range from 0 to 40 percent.
Group A-5 consists of well and moderately well drained soils that are subject to flooding. Grazing is limited during periods of stream overflow. The floodwater deposits sediments that lower the quality of the forage. The available water capacity ranges from

moderate to very high. Slopes range from 0 to 18 percent.

Group A-6 consists of deep and very deep, well and moderately well drained soils that are subject to frost action, which can damage legumes. Mixing fibrous-rooted grasses with the legumes and applying good grazing management minimize the damage caused by frost action. The available water capacity ranges from moderate to very high. Slopes range from 0 to 18 percent.

Group B soils are limited because of droughtiness.

Group B-1 consists of deep and very deep, well and moderately well drained soils. The available water capacity is low or very low and limits forage growth and production. Slopes range from 0 to 25 percent.

Group B-2 consists of deep and very deep, well and moderately well drained soils. The available water capacity is low or very low and limits forage growth and production. Slopes range from 25 to 40 percent.

Group B-3 consists of somewhat poorly drained to well drained soils that are subject to flooding. Slopes range from 0 to 6 percent.

Group B-4 consists of deep and very deep, well and moderately well drained reclaimed mine soils. The available water capacity is low or very low. Slopes range from 0 to 25 percent. The substratum contains a high percentage of rock fragments. The rooting zone is 20 to 30 inches deep.

Group C soils are wet because of a seasonal high water.

Group C-1 consists of deep and very deep somewhat poorly drained, poorly drained, and very poorly drained soils. These soils normally respond well to subsurface drainage. Slopes range from 0 to 12 percent.

Group C-2 consists of deep and very deep somewhat poorly drained, poorly drained, and very poorly drained soils. The seasonal high water table limits the rooting depth of deep-rooted forage plants. Shallow-rooted species grow best on these soils. Subsurface drains are used to lower the seasonal high water table. The effectiveness of subsurface drainage is usually limited by permeability of the subsoil, high amounts of clay in the subsoil, or a fragipan. Because of the limited root zone, these soils are better suited to forage species that do not have a taproot than to other species. Slopes range from 0 to 12 percent.

Group C-3 consists of somewhat poorly drained, poorly drained, and very poorly drained soils that are subject to flooding. Grazing is limited during periods of stream overflow. The available water capacity ranges from moderate to very high. Slopes range from 0 to 6 percent. The seasonal high water table limits the rooting depth of forage plants. Shallow-rooted species grow best on these soils.

Group D soils have a high organic matter content.

Group D-1 consists of soils formed entirely or partially in organic material. Slope is 0 to 2 percent.

Group E consists of shallow soils in which the root zone is less than 20 inches deep.

Group E-1 consists of soils that are shallow or very shallow. The available water capacity is low or very low. It restricts forage production. These soils are well suited to native warm-season grasses. Slopes range from 0 to 25 percent.

Group E-2 consists of soils that have are shallow and very shallow or have a high bulk density and cobbles and stones in the upper part. The available water capacity is low or very low. Slopes range from 25 to 40 percent. Shallow-rooted species should be selected for planting.

Group E-3 soils have a high bulk density and cobbles and stones in the upper part. The available water capacity is low or very low. Slopes range from 0 to 25 percent.

Group F consists of soils that have a root zone that extends to a depth of 20 to 40 inches. These soils are better suited to forage species that do not have a taproot than to other species.

Group F-1 consists of moderately deep, well and moderately well drained soils. Slopes range from 0 to 25 percent.

Group F-2 consists of moderately deep, well and moderately well drained soils. Slopes range from 25 to 40 percent. This group generally is not suited to hay. Group F-3 consists of well and moderately well drained soils that are moderately deep to a fragipan. Slopes range from 0 to 25 percent.

Group F-4 consists of well and moderately well drained soils that are moderately deep to a fragipan. Slopes range from 25 to 40 percent.

Group F-5 consists of well and moderately well drained soils with high bulk density, a high

clay content, slow permeability or a combination of these factors in the subsoil that restrict rooting depth. Slopes range from 0 to 25 percent.

Group F-6 consists of well and moderately well drained soils with high bulk density, a high clay content, slow permeability or a combination of these factors in the subsoil that restrict rooting depth. Slopes range from 25 to 40 percent.

Group F-7 consists of somewhat poorly drained, poorly drained, and very poorly drained soils with a high clay content and very slow permeability in the subsoil that restrict rooting depth. Slopes range from 0 to 12 percent.

Group G soils have chemical properties that are unfavorable for many climatically adapted plants.

Group G-1 consists of well and moderately well drained soils that are shallow or moderately deep to toxic spoil from surface mine operations. Available water capacity is low or very low in the root zone. Slopes range from 0 to 25 percent.

Group G-2 consists of well and moderately well drained soils that are shallow or moderately deep to toxic spoil from surface mine operations. Slopes range from 25 to 40 percent.

Group H soils are toxic or too steep for forage production.

Group H-1 consists of soils toxic materials from surface mining operation or on slopes greater than or equal to 40 percent. These soils generally are unsuited to pasture and hay.

Woodland Management and Productivity

The tables in this section can help woodland 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 woodland management.

Woodland Management

In table 11 (p. 351), table 12 (p. 362), and table 13 (p.362), interpretive ratings are given for various aspects of woodland management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified woodland 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 woodland management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for fire damage and seedling mortality are expressed as *low, moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or 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 woodland management practices. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet .

Ratings in the column *erosion hazard* 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 *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.

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 woodland 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.

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.

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 column *harvest equipment operability* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the column *suitability for mechanical 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 site preparation* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *potential for damage to soil by fire* are based on texture of the surface layer, content of rock fragments and organic matter in the surface layer, thickness of the surface layer, and slope. The soils are described as having a low, moderate, or high potential for this kind of damage. The ratings indicate an evaluation of the potential impact of prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer.

Woodland Productivity

In table 14 (p. 377), the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. 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.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Windbreaks and Environmental Plantings

Farm and homestead windbreaks are rows of trees or shrubs established adjacent to farm buildings, feedlots, and homes. These windbreaks are usually planted perpendicular to

the prevailing winter wind. Planting multiple rows of various species provides the best protection from winds and results in more varied wildlife habitat. 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 15 (p. 417) shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in table 15 (p. 417) 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, the Ohio Department of Natural Resources, Division of Forestry, or of the Cooperative Extension Service or from a commercial nursery.

Recreational Development

The soils of the survey area are rated in table 16 (p. 430) and table 17 (p. 430) according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in table 16 (p. 430) and table 17 (p. 430) can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and

the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 18 (p. 466), 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, soybeans, 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, raspberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are autumn-olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, cedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, 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 water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning,

in site selection, and in design. Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses. This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earth fill, 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.

Construction Materials

Table 19 (p. 476) and table 20 (p. 490) give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 19 (p. 476), only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

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.

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. Table 21 (p. 510) and table 22 (p. 526) show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected. *Numerical ratings* in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet.

The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification.

The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Small commercial building*s are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which

is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Table 23 (p. 547) and table 24 (p. 567) show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in down slope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds

constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Groundwater contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of groundwater pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large

stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Agricultural Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

Table 25 (p. 583) shows the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the tables are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

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 agricultural waste management. *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).

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption

include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation–exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

Water Management

Table 26 (p. 614) and table 27 (p. 630) give information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; aquifer-fed excavated ponds; grassed waterways; terraces and diversions; and drainage. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have

low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer–fed excavated ponds are pits or dugouts that extend to a groundwater aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock or a cemented pan affect the construction of grassed waterways. A hazard of water erosion, low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind erosion or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, a cemented pan, or other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and the potential for frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. Availability of drainage outlets is not considered in the ratings.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics. These results are at the Ohio State University, School of Natural Resources, Columbus, Ohio; the Ohio Department of Natural Resources, Division of Soil and Water Conservation, Columbus, Ohio; and the USDA–Natural Resources Conservation Service, state office, Columbus, Ohio.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 28 (p. 652) gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter (figure 8). "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted

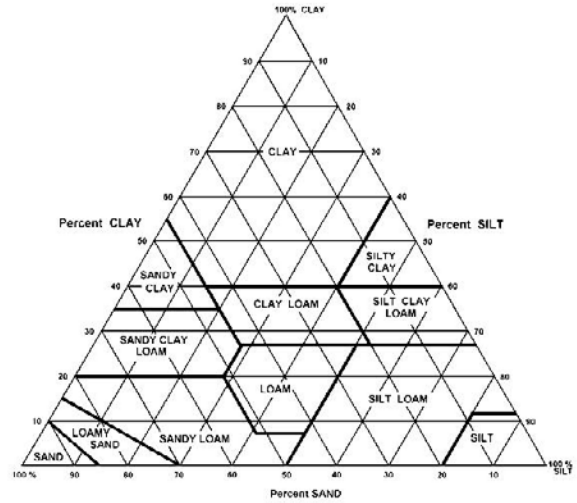

Figure 7. Textural Triangle

by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest. The AASHTO classification for soils tested, with group index numbers in parentheses,

is given in table 28 (p. 652).

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry–weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle–size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 29 (p. 667) shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 29 (p. 667), 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 the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink–swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The estimates in the table indicate the rate of water movement, in inches per hour (in/hr), 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.

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the

Figure 8. Grassed waterways help remove water and reduce erosion.

magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on the basis of measurements of similar soils.

If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air–dry to field capacity. The classes are low, a change of 3 percent; moderate, 3 to 6 percent; high, more than 6 percent; and very high, greater than 9 percent.

Erosion factors are shown in table 29 (p. 667) 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.

Chemical Properties

Table 30 (p. 682) shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 30 (p. 682), the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Cation–exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation–exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation–exchange capacity. The ability to retain cations reduces the hazard of groundwater pollution.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium–N volatilization.

Water Features

Table 31 (p. 697) gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long–duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink–swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group

(A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table K1 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 32 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 32 (p. 708) gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. Depth to top is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost

action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil–induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as low, moderate, or high. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1998 and 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 33 (p. 714) 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 loamy, 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.

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. Pedon descriptions published in this survey come from Richland County or adjacent counties. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1999) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 1998). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Alexandria Series

The Alexandria series consists of gently sloping to very steep, well drained soils. These soils formed in glacial till that was originally limy. They are in the northern part of the county.

A representative profile of this series, in a pasture, has a thin surface layer of very dark grayish brown silt loam. The subsoil is firm, yellowish brown silty clay loam and clay loam, and it extends to a depth of 40 inches. Below this is firm clay loam glacial till that is calcareous at a depth of less than 4 feet. Pebbles are in all layers of the profile.

Most areas of Alexandria soils are used for crops and pasture. Small areas are wooded. Most crops are grown on the gently sloping soils, and the steeper soils are used mainly for pasture.

Control of erosion and maintenance of tilth are the major management needs.

Representative profile of Alexandria silt loam, 6 to 12 percent slopes, moderately eroded, in pasture, in the NE1/4 SE1/4 sec. 25, T. 23 N., R. 19 W. (Cass Township):

A1- 0 to 2 inches, very dark grayish brown (10YR 3/2) silt loam; moderate fine granular structure; friable; few pebbles; strongly acid; abrupt wavy boundary.
B1-2 to 5 inches, yellowish brown (10YR 5/4) silt loam; weak fine subangular blocky structure; friable; few grainy silt coatings; few fine pebbles; strongly acid; clear wavy boundary.
B21t-5 to 16 inches, yellowish brown (10YR 5/4) heavy silty clay loam; moderate medium subangular blocky structure; firm; thin patchy brown (10YR 5/3) clay films on ped surfaces; 3 percent pebbles; strongly acid; gradual smooth boundary.
B22t-16 to 34 inches, yellowish brown (10YR 5/6) heavy silty clay loam; moderate medium subangular blocky structure; firm; thin patchy yellowish brown (10YR 5/4) clay films on ped surfaces; 4 percent pebbles; medium acid; clear wavy boundary.
B3-34 to 40 inches, yellowish brown (10YR 5/4) light clay loam; weak medium subangular blocky structure; friable; 6 percent pebbles; slightly acid; clear wavy boundary.
C1-40 to 45 inches, dark yellowish brown (10YR 4/4) clay loam; massive; firm; 6 percent pebbles; neutral; gradual boundary.
C2-45 to 60 inches, dark yellowish brown (10YR 4/4) clay loam; massive; firm; 6 percent pebbles; strongly calcareous; mildly alkaline.

In cultivated areas the color of the Ap horizon ranges from dark grayish brown (10YR 4/2) in uneroded areas to yellowish brown (10YR 5/4) in severely eroded areas. The A1 horizon in uncultivated areas ranges from 2 to 4 inches in thickness. An A2 horizon that is as much as 4 inches thick is in some uncultivated areas and in a very few cultivated areas. It is brown (10YR 5/3) silt loam and has weak, platy structure. The A horizon is silt loam or loam in texture.

The B1 horizon is not present in all areas. Where present, it is as much as 6 inches thick. The B2t horizon is 20 to 30 inches thick. Its base color has a hue of 10YR or 7.5YR, a value of 4 or 5, and a chroma of 4, 5, or 6. The upper 10 inches is free of mottles that have a chroma of 2 or less, but in places such mottles are in the lower few inches of the B2t horizon. The texture of the B2t horizon is heavy silty clay loam or heavy clay loam. The B2t horizon is medium acid or strongly acid in the upper part and becomes medium acid to neutral with depth. The B3 horizon is not present in some areas.

Depth to the calcareous C horizon is 27 to 46 inches. The C horizon is glacial till that is clay loam or silty clay loam in texture. White or light gray carbonate concretions are in some areas. Small, sharp pebbles are in all parts of the profile, and a few stones are present in some areas.

Alexandria soils are similar to Cardington soils in texture, but they have better natural drainage and are not mottled at so shallow a depth. Alexandria soils have a higher clay content than Wooster or Rittman soils and they lack the dense fragipan. Other well drained soils that occur near Alexandria soils are the Mentor and Belmore soils. Alexandria soils have a more clayey subsoil than Mentor soils and a more clayey, less gravelly subsoil than Belmore soils.

Algiers Series

The Algiers series consists of nearly level, somewhat poorly drained soils. These soils formed in light colored soil material deposited by flooding streams on top of an older, dark colored, very poorly drained soil. For this reason, the darkest layer in Algiers soils is not at the surface as in most soils, but at a depth of 15 to 30 inches. These soils are on flood plains in all parts of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 8 inches thick. Below this, between depths of 8 and 19 inches, is dark grayish brown silt loam. Between depths of 19 and 30 inches, is very dark gray silty clay loam. This layer was originally the surface layer, but it has been covered by more recent alluvial deposits. Between depths of 30 and 43 inches is dark gray silty clay loam mottled with dark yellowish brown. This layer is underlain by 4 inches of black silty clay loam. Below this second buried surface layer, between depths of 47 and 60 inches, is firm, stratified loam and silt loam that is dark gray mottled with strong brown.

Periodic flooding generally is a hazard, but some areas are rarely flooded because of stream channel improvement or other flood prevention measures. New soil material is deposited on the surface during floods, and seedlings are likely to be washed out or buried. In most areas natural drainage is not adequate for good growth of crops.

The areas of Algiers soils are used about equally for crops and permanent pasture.

Representative profile of Algiers silt loam, in a cultivated field, in the NE ¼ SE ¼ sec. 5, T. 23 N., R 17 W. (Mifflin Township):

Ap-0 to 8 inches, dark grayish brown (10YR 4/2) silt loam; weak medium crumb structure; friable; neutral; abrupt smooth boundary.
C-8 to 19 inches, dark grayish brown (10YR 4/2) silt loam; weak medium crumb structure; friable; neutral; abrupt smooth boundary.
IIAp-19 to 30 inches, very dark gray (10YR 3/1) light silty clay loam; moderate fine granular structure; firm; neutral; abrupt smooth boundary.
IICg-30 to 43 inches dark gray (5Y 4/1) stratified silty clay loam; many coarse faint dark gray (10YR 4/1) mottles and common medium prominent dark yellowish brown (10YR 4/4) mottles; massive; firm; neutral; abrupt smooth boundary.
IIIA1b-43 to 47 inches, black (N 2/0) silty clay loam; massive; firm; neutral; abrupt smooth boundary.
IIICg-47 to 60 inches, dark gray (10YR 4/1) stratified loam and silt loam; many coarse prominent strong brown (7.5YR 5/6) mottles; massive; friable; mildly alkaline.

In uncultivated areas the A1 horizon ranges from 1 to 3 inches in thickness. It is typically very dark grayish brown

(10YR 3/2). The C horizon is dark brown (10YR 4/3), dark grayish brown (10YR 4/2), or grayish brown (10YR 5/2). Its texture is loam, silt loam, or fine sandy loam. The buried, dark colored IIAp horizon is at a depth of 15 to 30 inches and is 10 to 18 inches thick. It has a hue of 10YR, a value of 2 or 3, and a chroma of 0 to 2. It is faintly mottled below a depth of 20 inches in some areas. The IICg horizon is typically stratified, and the texture of the major strata is silt loam, loam, or silty clay loam. A thin, buried A horizon is present in the C horizon in some places. Reaction throughout the profile is neutral to mildly alkaline. Carbonates are seldom present within a depth of 60 inches.

Algiers soils differ from most other soils in the county in having a light over dark color sequence. The only other soils that have this color sequence are the Wallkill soils and the Pewamo soils, overwash. Algiers soils are on flood plains, and Pewamo soils, overwash are in upland depressions. In Algiers soils, the buried, dark layer is silt loam or silty clay loam, but in Wallkill soils it is muck or peat. Algiers soils differ from the included Sloan soils in having a light colored surface layer deposited over the dark layer. The darker layer is the surface layer in Sloan soils.

Belmore Series

The Belmore series consists of gently sloping to moderately steep, well drained soils that formed in gravelly outwash deposits that were originally calcareous. These soils are on hills, knolls, and ridges in the northwestern part of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown loam plow layer 9 inches thick. The upper part of the subsoil, between depths of 9 and 13 inches is yellowish brown gravelly loam. The lower part, between depths of 13 and 44 inches, is brown gravelly loam and gravelly clay loam. Below the subsoil, between depths of 44 and 60 inches, is brown sandy loam. This layer is very friable and calcareous and contains a few thin layers that are gravelly.

Most areas of Belmore soils are used for crops or improved pasture. The less strongly sloping areas are better suited to crops than the steeper ones.

Representative profile of Belmore loam, 6 to 12 percent slopes, in a cultivated field, SW ¼ SE ¼ sec. 20, T. 21 N., R. 19 W. (Sharon Township):

Ap-0 to 9 inches, dark grayish brown (10YR 4/2) loam; weak medium granular structure; friable; 10 percent gravel; neutral; abrupt smooth boundary.

B1-9 to 13 inches, yellowish brown (10YR 5/4) gravelly loam; weak medium subangular blocky structure; very friable; 30 percent gravel; slightly acid; clear irregular boundary.

B21t-13 to 20 inches, brown (7.5YR 5/4) gravelly loam; weak medium subangular blocky structure; very friable; few discontinuous brown (10YR 5/3) clay films; coarse fragments coated and bridged with clay; 35 percent gravel; slightly acid; clear irregular boundary.

B22t-20 to 34 inches, brown (7.5YR 4/4) gravelly clay loam; weak coarse subangular blocky structure; firm; few brown (10YR 5/3) clay films; coarse fragments coated and bridged with clay; 25 percent gravel; neutral; gradual smooth boundary.

B23t-34 to 44 inches, brown (7.5YR 4/4) stratified gravelly loam and gravelly clay loam; weak coarse subangular blocky structure; friable; yellowish brown (10YR 5/4) clay films; coarse fragments coated and bridged with clay; 20 percent gravel; neutral; gradual smooth boundary.

C-44 to 60 inches, brown (7.5YR 5/4 and 10YR 5/3) sandy loam; massive; very friable; contains thin strata of gravelly sandy loam; mildly alkaline; calcareous.

The plow layer is dark brown (10YR 4/3), dark grayish brown (10YR 4/2), or brown (10YR 5/3). In uncultivated areas the A1 horizon is 1 to 5 inches thick and is very dark grayish brown (10YR 3/2) or very dark brown (10YR 2/2). An A2 horizon, as much as 7 inches thick, is present in uncultivated areas and in some cultivated areas. It is brown (10YR 5/3) or pale brown (10YR 6/3) and is free of mottles. The A horizon is typically loam in texture, but ranges to sandy loam.

The B1 horizon is 4 to 10 inches thick. It is brown or yellowish brown and is loam or gravelly loam in texture. The B2t horizon is 20 to 40 inches thick. It has a hue of 7.5YR or 10YR, a value of 4 or 5, and a chroma of 3 or 4. It is gravelly loam, gravelly clay loam, sandy clay loam, or gravelly sandy clay loam. The gravel content is 35 percent or less, and the structure is weakly developed, especially in the more gravelly Belmore soils. Much of the evidence of clay movement is in the form of clay films on, and bridging between, coarse fragments. Clay films, where present, have a color range similar to that of the ped interiors.

The C horizon is stratified. In some places it is dominantly sandy, and in others it is gravelly. It commonly is sandy loam, gravelly loam, loamy sand, and loamy gravel. The gravel content ranges from almost none to 80 percent. The color of the C horizon is brown or yellowish brown. Adjacent strata in this horizon generally differ slightly in color.

Reaction in the solum is medium acid to neutral. The C horizon is calcareous within a depth of 55 inches.

Belmore soils are similar to Haney soils in texture, but they have better natural drainage and are free of mottles to a greater depth. They are also similar to Chili soils in texture, but they are less acid. They have a more gravelly and less clayey subsoil than Alexandria soils and a more gravelly and less silty subsoil than Mentor soils.

Bennington Series

The Bennington series consists of nearly level to gently sloping, somewhat poorly drained soils that formed in calcareous glacial till. These soils are on till plains in the northern part of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 6 inches thick. The upper part of the subsoil, between depths of 6 and 9 inches, is yellowish brown silt loam mottled with gray, grayish brown, and yellowish brown. Between depths of 9 and 14 inches, the subsoil is brown silty clay loam mottled with grayish brown and yellowish brown; and between depths of 14 and 36 inches, it is yellowish brown, very firm silty clay loam mottled with grayish brown. The substratum, between depths of 36 and 60 inches, is yellowish

brown clay loam mottled with yellowish red and light brownish gray. The upper part of the subsoil is strongly acid or very strongly acid, and the lower part is medium acid to mildly alkaline. There are small pebbles throughout the soil profile.

Most areas of Bennington soils are artificially drained and used for crops, mainly corn, soybeans, and small grain.

Representative profile of Bennington silt loam, 2 to 6 percent slopes, in a cultivated field in the SE¼SE¼ sec. 25, T. 23 N., R. 18 W. (Butler Township) (laboratory data sample RC-23):

Ap-0 to 6 inches, dark grayish brown (10YR 4/2) silt loam; weak fine crumb structure; friable; strongly acid; abrupt, smooth boundary.

B1-6 to 9 inches, yellowish brown (10YR 5/4) silt loam; common medium distinct mottles of gray (10YR 5/1), grayish brown (10YR 5/2), and yellowish brown (10YR 5/8); weak medium subangular blocky structure; friable; strongly acid; clear wavy boundary.

B21t-9 to 14 inches, brown (10YR 5/3) silty clay loam; common medium faint mottles of grayish brown (10YR 5/2) and many coarse distinct mottles of yellowish brown (10YR 5/6); moderate medium prismatic structure; firm; grayish brown (10YR 5/2) ped coatings; very thick clay films on vertical ped faces and thick clay films on horizontal ped faces; few pale brown (10YR 6/3) silt coatings on ped faces in upper 2 inches; few small pebbles; very strongly acid; clear, wavy boundary.

B22t-14 to 22 inches, yellowish brown (10YR 5/4) silty clay loam; many coarse faint mottles of yellowish brown (10YR5/6) and common coarse distinct mottles of grayish brown (10YR 5/2); moderate coarse prismatic structure that parts to moderate fine subangular blocky structure; very firm; continuous thick grayish brown (10YR 5/2) ped coatings that include clay films on ped faces; few coarse fragments; very strongly acid; diffuse wavy boundary.

B23t-22 to 29 inches, yellowish brown (10YR 5/6) silty clay loam; many coarse distinct mottles of grayish brown (10YR 5/2); weak coarse prismatic structure that parts to weak fine subangular blocky structures; very firm; grayish brown (10YR 5/2) ped coatings that include clay films; few coarse fragments; medium acid; diffuse irregular boundary.

B3-29 to 36 inches, yellowish brown (10YR 5/4) silty clay loam; many medium faint mottles of grayish brown (10YR 5/2) and yellowish brown (10YR 5/6); moderate medium subangular blocky structure; firm; few patches of grayish brown (10YR 5/2) clay films on ped surfaces; mildly alkaline; very weakly calcareous; abrupt wavy boundary.

C-36 to 60 inches, yellowish brown (10YR 5/4) clay loam; few coarse prominent mottles of yellowish red (5YR 4/8); strongly laminar; firm; 10 percent coarse fragments; many coarse prominent lime concentrations of light brownish gray (10YR 6/2); mildly alkaline; very strongly calcareous.

In unplowed areas the A1 horizon is very dark grayish brown (l0YR 3/2) and is 2 to 4 inches thick. An A2 horizon is present in uncultivated areas and in some cultivated areas. It is typically grayish brown (10YR 5/2 or 2.5Y 5/2), friable silt loam that has mottles of a high chroma.

The total thickness of the Bt horizon is 12 to 36 inches. Its texture is clay loam or silty clay. The ped interiors have a hue of 10YR or 2.5Y, a value of 4 or 5, and a chroma of 4 to 6. The mottles have a low chroma. Ped surfaces are coated with gray (10YR 5/1) or grayish brown (10YR 5/2). These coatings include some clay films. The B3 horizon is not present in all Bennington profiles. Reaction ranges from strongly acid to very strongly acid in the upper part of the B horizon to slightly acid in the lower part. The depth to calcareous glacial till is 27 to 40 inches. This till is clay loam or silty clay loam that is yellowish brown and grayish brown in color. The content of coarse fragments is 2 to 10 percent throughout the profile.

Bennington soils are similar to Cardington and Condit soils in texture, but Cardington soils are moderately well drained and Condit soils are poorly drained. Their subsoil is grayer than that of Cardington soils and less gray than that of Condit soils. Bennington soils are similar to Wadsworth, Fitchville, and Digby soils in color. Bennington soils have a higher clay content in the subsoil than Wadsworth soils, and they lack the dense fragipan of Wadsworth soils. Bennington soils contain more clay, more pebbles, and less silt than Fitchville soils, and less gravel than Digby soils.

Berks Series

The Berks series consists of gently sloping to steep, well drained soils that formed in material weathered from sandstone bedrock. Much of the soil volume is made up of sandstone pieces, and solid sandstone bedrock is at a depth of 20 to 40 inches. These soils are mostly in the southeastern part of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown channery silt loam plow layer 7 inches thick. The upper part of the subsoil, between depths of 7 and 11 inches, is yellowish brown channery silt loam. The lower part, between depths of 11 and 28 inches, a yellowish brown very channery silt loam. The substratum extends to a depth of 38 inches and consists of weathered sandstone bedrock and a little soil material between the rock fragments. It is underlain by slightly fractured bedrock that extends to a depth of 60 inches.

A few areas of the less strongly sloping soils are in crops. Areas of the steeper soils are in permanent pasture or trees.

Representative profile of Berks channery silt loam, 2 to 6 percent slopes, in a cultivated field, in the NE¼ NW¼ sec. 7, T. 21 N., R. 17 W. (Worthington Township):

Ap-0 to 7 inches, dark grayish brown (10YR 4/2) channery silt loam; moderate medium granular structure; friable; 20 percent sandstone fragments; strongly acid; abrupt smooth boundary.

B1-7 to 11 inches, yellowish brown (10YR 5/4) channery silt loam; weak fine subangular blocky structure; friable; 30 percent sandstone fragments; strongly acid; gradual boundary.

B2-11 to 28 inches, yellowish brown (10YR 5/4) very channery silt loam; moderate fine subangular blocky

structure; friable; 60 percent angular sandstone fragments; strongly acid; gradual boundary.

C-28 to 38 inches, weathered sandstone bedrock; 90 percent sandstone fragments 1 to 2 inches thick and 6 to 10 inches across; 10 percent yellowish brown (10YR 5/4) loam partly filling the interstices.

R-38 to 60 inches, solid sandstone bedrock, slightly fractured.

In unplowed areas the A1 horizon is very dark grayish brown (10YR 3/2) and is 2 to 4 inches thick. It is underlain by a thin, brown (10YR 5/3) A2 horizon. The solum is 18 to 30 inches thick, and the depth to bedrock is 20 to 40 inches. The content of sandstone channers is 15 to 30 percent in the A horizon, 25 to 40 percent in the upper part of the B horizon, 50 to 70 percent in the lower part of the B horizon, and more than 80 percent in the C horizon. The average size of the channers increases with depth. Channers make up more than 50 percent of the soil volume within 20 inches of the surface. The soil between the channers is silt loam or loam. It fills the interstices that are larger than 1 millimeter. Its color has a hue of 10YR or 7.5YR, a value of 4 or 5, and a chroma of 4 to 6. The solum is strongly acid or very strongly acid.

Berks soils contain more sandstone fragments in their subsoil than Lordstown or Loudonville soils. Berks and Conotton soils contain many coarse fragments, but those in Berks soils are angular sandstone fragments, whereas those in Conotton soils are rounded cobbles. Also, Berks soils are underlain by bedrock, and Conotton soils are not. Berks soils contain more silt, clay, and rock fragments in their subsoil and less sand than Schaffenaker soils.

Bogart Series

The Bogart series consists of nearly level to gently sloping, moderately well drained soils that formed in glacial outwash deposits. These soils are mostly on stream terraces and alluvial fans in the southern part of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 8 inches thick. The subsurface layer is 2 inches thick and is pale brown silt loam. The subsoil is yellowish brown silt loam between depths of 10 to 14 inches, yellowish brown heavy silt loam mottled with grayish brown between depths of 14 and 22 inches, yellowish brown light silty clay loam mottled with grayish brown between depths of 22 and 31 inches, and yellowish brown gravelly loam mottled with yellowish brown between depths of 31 and 34 inches. The substratum, between depths of 34 and 60 inches, is yellowish brown and grayish brown, stratified very gravelly sandy loam and gravelly loamy sand.

Bogart soils are well suited to crops. The areas are used mostly for crops or improved pasture.

Representative profile of Bogart silt loam, 0 to 2 percent slopes, in a cultivated field, in the NE1/4 SW1/4 sec. 7, T. 19 N., R. 18 W. (Jefferson Township):

Ap-0 to 8 inches, dark grayish brown (10YR 4/2) silt loam; moderate medium granular structure; friable; slightly acid; abrupt smooth boundary.

A2-8 to 10 inches, pale brown (10YR 6/3) silt loam; weak fine subangular blocky structure; friable; medium acid; clear wavy boundary.

B1-10 to 14 inches, yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; strongly acid; clear wavy boundary.

B21t-14 to 22 inches, yellowish brown (10YR 5/4) heavy silt loam; common coarse faint mottles of grayish brown (10YR 5/2); moderate fine subangular blocky structure; friable; discontinuous brown (10YR 5/3) clay films on ped faces; strongly acid; gradual boundary.

B22t-22 to 31 inches, yellowish brown (10YR 5/4) light silty clay loam; many medium faint mottles of grayish brown (10YR 5/2); moderate fine subangular blocky structure; firm; grayish brown (10YR 5/2) and brown (10YR 5/3) clay films on ped faces; medium acid; clear smooth boundary.

IIb3-31 to 34 inches, yellowish brown (10YR 5/6) gravelly loam; common coarse faint mottles of yellowish brown (10YR 5/4) and common medium distinct mottles of grayish brown (10YR 5/2); weak coarse subangular blocky structure; friable; 20 percent gravel; slightly acid; clear wavy boundary.

IIC-34 to 60 inches, mottled yellowish brown (10YR 5/4) and grayish brown (10YR 5/2), stratified very gravelly sandy loam and gravelly loamy sand; single grain; loose; few thin strata of loamy material; 60 percent gravel; slightly acid.

In uncultivated areas the A1 horizon is very dark grayish brown (10YR 3/2) or very dark brown (10YR 2/2) and is 1 to 5 inches thick. The A2 horizon is 2 to 6 inches thick in uncultivated areas, and 0 to 4 inches thick in cultivated areas. It is pale brown (10YR 6/3) or brown (10YR 5/4) and is not mottled. The A horizon is silt loam or loam, and the gravel content is 5 to 15 percent in the loam and less than 5 percent in the silt loam.

The B1 horizon is 2 to 8 inches thick. It is brown or yellowish brown silt loam, loam, or gravelly loam and is free of mottles. The B2t horizon is 16 to 35 inches thick. It is typically stratified, and the matrix color has a hue of 10YR or 7.5YR, a value of 4 or 5, and a chroma of 3 to 6. The texture of this horizon is loam, gravelly loam, silt loam, or light silty clay loam. The gravel content ranges from almost none to 40 percent. Ped coatings, where present, have colors similar to those of the ped interiors. Part of the evidence of clay movement in the more gravelly strata is in the form of clay bridging between coarse fragments.

The C horizon is typically stratified. Texture is generally gravelly loam, very gravelly loam, very gravelly sandy loam or gravelly loamy sand, but it is either clean sand or gravel, or both, in places. The gravel content of the C horizon ranges from 25 to 80 percent but is commonly 40 to 60 percent. Individual strata are brown or yellowish brown and are friable, very friable, or loose. Mottling is evident in the more consolidated strata.

Bogart soils are similar to Wheeling and Chili soils in texture but are mottled at a shallower depth and have poorer natural drainage. Bogart soils are similar to Fitchville soils, gravelly subsoil variant, in texture but have better natural drainage, are deeper to mottling, and have a browner, less gray subsoil. Bogart soils are more acid than Haney soils. They are more gravelly in and below the subsoil than Glenford soils.

Brownsville Series

The Brownsville series consists of deep, well drained soils that formed in colluvium and residuum derived from siltstone and fine grained sandstone bedrock. These soils are on unglaciated hilltops and valley side slopes. Slope ranges from 6 to 60 percent.

Brownsville soils commonly are adjacent to Gilpin, Loudonville, and Westmoreland soils. The adjacent soils have an Argillic horizon. Their solum has fewer rock fragments than that of the Brownsville soils. Gilpin and Loudonville soils commonly are in the higher positions in the landscape. Westmoreland soils are in positions on the landscape similar to those of the Brownsville soils.

Typical pedon of Brownsville channery silt loam, in an area of Brownsville-Westmoreland complex, 25 to 40 percent slopes, 2.5 miles east-southeast of Millwood, Knox County; in an area of Union Township about 1,000 feet north-northeast along Shoemaker Road from the intersection of Shoemaker Road and State Route 715, then about 300 feet east, T. 7 N., R. 10 W.

A-0 to 2 inches; very dark grayish brown (10YR 3/2) channery silt loam, grayish brown (10YR 5/2) dry; moderate very fine granular structure; very friable; about 30 percent thin, flat, randomly oriented sandstone fragments; very strongly acid; diffuse irregular boundary.

BA-2 to 4 inches; brown (10YR 5/3) very channery silt loam; weak fine subangular blocky structure; very friable; few brown (10YR 4/3) stains; about 35 percent thin, flat, randomly oriented sandstone fragments; very strongly acid; diffuse wavy boundary.

Bw1-4 to 14 inches; yellowish brown (10YR 5/6) very channery silt loam; weak medium subangular blocky structure; very friable; about 40 percent thin, flat, randomly oriented, highly stained sandstone fragments; very strongly acid; gradual smooth boundary.

Bw2-14 to 23 inches; yellowish brown (10YR 5/4) very channery silt loam; weak medium subangular blocky structure parting to distinct platiness inherited from the bedding planes of the rock; very friable; about 55 percent thin, flat, randomly oriented sandstone fragments; slightly weathered surfaces on sandstone fragments; very strongly acid; gradual smooth boundary.

BC-23 to 34 inches; yellowish brown (10YR 5/4) extremely channery silt loam; weak medium subangular blocky structure; very friable; about 70 percent flat, randomly oriented sandstone fragments; very strongly acid; diffuse irregular boundary.

C-34 to 48 inches; yellowish brown (10YR 5/4) extremely channery silt loam; massive; very friable; about 75 percent flat, roughly horizontal sandstone fragments; cracks filled with silt loam; very strongly acid; diffuse wavy boundary.

R-48 to 50 inches; light yellowish brown (2.5Y 6/4) fractured fine grained sandstone and siltstone bedrock; beds 1.0 to 2.5 inches thick; vertical cleavage plains about 12 inches apart.

The thickness of the solum ranges from 24 to 48 inches and the depth to bedrock from 40 to 72 inches. Reaction is strongly acid or very strongly acid throughout the profile. The content of coarse fragments commonly increases with increasing depth. It is 15 to 35 percent in the A horizon, 25 to 60 percent in the lower part of the B horizon, and 50 to 80 percent in the C horizon. The coarse fragments are flat, angular sandstone and siltstone, mostly 1 to 10 inches across and 0.25 inch to 2.0 inches thick.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 2. Some pedons have an Ap horizon, which is lighter colored than the A horizon. The B and C horizons have hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 3 to 6. Stains that have a wide range of color commonly are on the coarse fragments. Zones that have hue of 2.5Y are in some pedons where rock fragments have weathered into soil material. The fine earth material in the B and C horizons is silt loam in which the clay content is 8 to 18 percent.

Brownsville soils have texture similar to Berks soils but are deeper to rock.

Canfield Series

The Canfield series consists of nearly level to sloping, moderately well drained soils. These soils formed in glacial till that was originally low in content of lime. They have a fragipan that restricts the downward movement of water. Canfield soils are in the south western and central parts of the county.

A representative profile of this series, in a wooded area, has a very dark grayish brown silt loam surface layer 3 inches thick. The subsurface laver is also silt loam, 3 inches thick, but it is brown. Beginning at a depth of 6 inches, the subsoil extends to a depth of 50 inches. In sequence, the color and texture of the subsoil are yellowish brown silt loam to a depth of 10 inches; yellowish brown loam mottled with grayish brown to a depth of 22 inches; yellowish brown, very firm loam mottled with gray to a depth of 34 inches; yellowish brown, very firm loam mottled with grayish brown and strong brown to a depth of 45 inches; and yellowish brown loam mottled with grayish brown and strong brown to a depth of 50 inches. The substratum, between depths of 50 and 60 inches, is yellowish brown loam mottled with yellowish red. Many small pebbles and a few stones are throughout the profile.

The use of Canfield soils depends to some extent on their slope and degree of erosion. In general, they are well suited to crops, and much of the acreage is used for crops, mainly corn, soybeans, and small grain. Smaller acreages are used for trees or permanent pasture.

Representative profile of Canfield silt loam, 2 to 6 percent slopes, in a wooded area, in the

NW¼NW¼ sec. 13, T. 19 N., R. 19 W. (Perry Township) (laboratory data sample RC-7):

A1-0 to 3 inches, very dark grayish brown (10YR 3/2) silt loam; moderate medium granular structure; friable; strongly acid; clear wavy boundary.

A2-3 to 6 inches, brown (10YR 5/3) silt loam; weak medium platy structure; friable; strongly acid; clear irregular boundary.

B1-6 to 10 inches, yellowish brown (10YR 5/4) silt loam; weak fine subangular blocky structure; friable; strongly acid; gradual smooth boundary.

B2t-10 to 22 inches, yellowish brown (10YR 5/6) loam; few fine distinct grayish brown (10YR 5/2) mottles; weak medium subangular blocky structure; firm; thin patchy brown (10YR 5/3) clay films on ped faces; few fine pebbles; strongly acid; clear wavy boundary.

Bx1-22 to 34 inches, yellowish brown (10YR 5/4) loam; many coarse faint yellowish brown (10YR 5/6) mottles and common medium distinct gray (10YR 5/1) mottles; weak very coarse prismatic structure that parts to weak fine subangular blocky structure; very firm; brittle; brown (10YR 5/3) clay films and light brownish gray (10YR 6/2) silt coatings on ped faces; clay films increase and silt coatings decrease in amount and thickness with depth; 8 percent pebbles; strongly acid; clear smooth boundary.

Bx2-34 to 45 inches, yellowish brown (10YR 5/4) loam; many coarse faint yellowish brown (10YR 5/6) mottles and grayish brown (10YR 5/2) mottles and common medium prominent strong brown (7.5YR 5/8) mottles; moderate very coarse prismatic structure that parts to moderate medium platy structure; very firm; brittle; thick dark grayish brown (10YR 4/2) clay films on prism faces; common medium distinct very dark grayish brown manganese stains in ped interiors; 8 percent pebbles; medium acid; clear wavy boundary.

B3-45 to 50 inches, yellowish brown (10YR 5/4) loam; common medium faint grayish brown (10YR 5/2) mottles and few fine prominent strong brown (7.5YR 5/8) mottles; weak medium platy structure; friable; few dark grayish brown (10YR 4/2) clay films; neutral; 10 percent pebbles; clear wavy boundary.

C-50 to 60 inches, yellowish brown (10YR 5/4) loam; common medium prominent light gray (10YR 7/2) lime concretions; few fine prominent yellowish red (5YR 5/8) mottles; massive; friable; 10 percent pebbles and small stones; mildly alkaline, weakly calcareous.

In cultivated areas, the Ap horizon is dark grayish brown (10YR 4/2) silt loam. The A2 horizon is absent in most cultivated areas, but it is as thick as 6 inches in some uncultivated areas. The A horizon is typically silt loam or loam.

The B1 horizon is 3 to 8 inches thick. In some areas it contains silt coatings. The B2t horizon, which is above the fragipan, is 8 to 16 inches thick. Its color has a hue of 10YR, a value of 4 or 5, and a chroma of 4 to 6. The texture is loam or silt loam.

The ped interiors are brown (10YR 4/3), dark yellowish brown (10YR 4/4), or yellowish brown (10YR 5/4 or 5/6), and have mottles of a low chroma. The exteriors of the polygons or prisms are coated with dark grayish brown (10YR 4/2) or grayish brown (10YR 5/2) clay films. The fragipan is at a depth of 15 to 28 inches and is 15 to 30 inches thick. Light brownish gray (10YR 6/2) or pale brown (10YR 6/3) silt coatings are present in the upper part of the fragipan in many areas. The fragipan commonly contains dark colored manganese stains or concretions. The texture of the fragipan is loam or silt loam.

A B3 horizon, 4 to 8 inches thick, is below the fragipan in most areas. The underlying till is loam or silt loam.

Reaction in and above the fragipan is strongly acid or very strongly acid. Acidity decreases below the fragipan. Carbonates are at a depth of 44 to 70 inches. Reaction at a depth of 60 inches is slightly acid to mildly alkaline where the till is not calcareous. Coarse fragments make up 5 to 15 percent of the soil volume in and below the fragipan.

Canfield soils are similar to Wooster and Ravenna soils in texture. They have gray mottles at a shallower depth, have poorer natural drainage, and are in lower or more concave positions than Wooster soils. They have a browner and less gray subsoil, better natural drainage than Ravenna soils, and they are generally in higher positions. Canfield soils are lower in clay content than Rittman soils, especially in the subsoil. They are less gravelly than Bogart soils and have a denser and more gravelly subsoil than Glenford soils. Canfield soils are similar to Titusville soils, but they are not acid to as great a depth.

Cardington Series

The Cardington series consists of gently sloping to sloping, moderately well drained soils that formed in glacial till. These soils are on till plains in the northern part of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 8 inches thick. The upper part of the subsoil, between depths of 8 and 15 inches, is yellowish brown silt loam. The lower part, between depths of 15 and 34 inches, is yellowish brown silty clay loam mottled with grayish brown. The substratum, between depths of 34 and 60 inches, is yellowish brown clay loam mottled with grayish brown. There are a few pebbles throughout the profile.

Most areas of Cardington soils are used for crops, mainly corn, soybeans, small grain, and hay.

Representative profile of Cardington silt loam, 2 to 6 percent slopes, in a cultivated field, in the SE¼ NE¼ sec. 14, T. 22 N., R. 19 W. (Jackson Township) (laboratory data sample RC-9):

Ap-0 to 8 inches, dark grayish brown (10YR 4/2) silt loam; moderate medium granular structure; friable; 4 percent pebbles; neutral (limed); abrupt smooth boundary.

B1-8 to 15 inches, yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; firm; few pale brown (10YR 6/3) degradational silt coatings on ped surfaces; 2 percent pebbles; very strongly acid; diffuse wavy boundary.

B21t-15 to 25 inches, yellowish brown (10YR 5/4) silty clay loam; few fine and medium distinct grayish brown (10YR 5/2) mottles; strong medium angular blocky structure; firm; brown (10YR 5/3) clay coatings on ped faces; 3 percent pebbles; very strongly acid; clear wavy boundary.

B22t-25 to 34 inches, yellowish brown (10YR 5/4) heavy silty clay loam; common fine distinct grayish brown (10YR 5/2) mottles; strong fine angular blocky

structure; firm; brown (10YR 4/3) clay films on ped faces; 3 percent pebbles; strongly acid; clear wavy boundary.

C-34 to 60 inches, yellowish brown (10YR 5/4) clay loam; common medium faint yellowish brown (10YR 5/6) and grayish brown (10YR 5/2) mottles; massive; firm; 5 percent pebbles; few white lime blotches; mildly alkaline, strongly calcareous.

In uncultivated areas an A1 horizon is very dark grayish brown (10YR 3/2) and is 1 to 4 inches thick. An A2 horizon is present in uncultivated areas and in some cultivated areas. It is 2 to 6 inches thick and is typically brown (10YR 5/3) to pale brown (10YR 6/3), friable silt loam that has weak, platy or subangular blocky structure.

The B2t horizon has a total thickness of 12 to 30 inches. It is typically heavy silty clay loam in texture, but individual subhorizons range from clay loam to light silty clay. The color of ped interiors has a hue of 10YR or 7.5YR, a value of 4 or 5, and a chroma of 4 to 6. Degradational silt coatings are present in the upper part of the B2t horizon in some areas. In some areas a B3 horizon, 2 to 8 inches, thick is below the B2t horizon.

Reaction is medium acid to very strongly acid in the upper part of the B horizon and strongly acid to neutral in the lower part.

Depth to the calcareous C horizon is 27 to 44 inches. The C horizon is glacial till of clay loam or silty clay loam texture. Small pebbles are present in all horizons and typically make up 2 to 10 percent of the soil volume.

Cardington soils are intermediate in natural drainage between the well drained Alexandria soils and the somewhat poorly drained Bennington soils and are similar to these soils in texture. Cardington soils are mottled at a shallower depth than Alexandria soils. They are less gray than Bennington soils, and their subsoil is browner. Their subsoil has a higher clay content than that of Rittman soils, and they lack the dense fragipan that is in the subsoil of those soils. Cardington soils are more clayey, more pebbly, and less silty than Glenford soils, and they are less gravelly than Haney soils.

Carlisle Series

The Carlisle series consists of dark colored, very poorly drained, organic soils. These soils formed in muck and peat deposits, more than 51 inches thick, under lowland hardwood trees and marsh grass. They are in basin like areas on till plains, moraines, and flood plains, mainly in the northern and central parts of the county.

A representative profile of this series, in a cultivated field, consists of black muck to a depth of 31 inches. Below is very dark brown muck that extends to a depth of 60 inches. Some partly decomposed plant material can be recognized.

Some of the large areas and a few small pockets are drained artificially and are used for vegetable and field crops. Many of the small pockets are undrained and are not farmed.

Representative profile of Carlisle muck, in a cultivated field, in the NW¼SW1/4 sec. 23, T. 23 N., R. 19 W. (Cass Township):

Oap-0 to 8 inches, sapric material; black (10YR 2/1) on broken faces; no fiber evident before or after rubbing; moderate medium granular structure; friable; about 35 percent mineral material; slightly acid; clear smooth boundary.

Oa2-8 to 18 inches, sapric material; black (10YR 2/1) on broken faces and rubbed; moderate coarse subangular blocky structure; somewhat brittle; about 30 percent mineral material; neutral; clear smooth boundary.

Oa3-18 to 31 inches, sapric material; black (10YR 2/1) on broken faces, very dark brown (10YR 2/2) rubbed; about 15 percent fiber, less than 2 percent rubbed; weak coarse angular blocky structure; friable; about 25 percent mineral material; neutral; clear smooth boundary.

Oa4-31 to 43 inches, sapric material; very dark brown (10YR 2/2) on broken faces and rubbed; about 25 percent fiber, about 5 percent rubbed; massive; friable; about 20 percent mineral material; neutral; clear smooth boundary.

Oa5-43 to 60 inches, sapric material very dark brown (10YR 2/2) on broken faces and rubbed; about 35 percent fiber, 5 to 10 percent when rubbed; massive; friable; about 15 percent mineral material; mildly alkaline.

The thickness of organic material is at least 51 inches. Reaction in the subsurface layer (12 to 36 inches) is neutral to mildly alkaline.

The surface and subsurface layers (upper 36 inches) consist of sapric (decomposed) organic material. The color of this material has a hue of 10YR or 7.5YR, a value of 2 or 3, and a chroma of 0 to 3. On rubbing, the value of the color increases by one unit or less. The fiber content in the subsurface layer is 5 to 30 percent before rubbing and less than 10 percent after rubbing. The surface layer is 30 to 50 percent mineral soil material, and the subsurface layer is 20 to 35 percent mineral soil material.

The bottom layer is dominantly sapric organic material but contains thin layers of less decomposed, or hemic, material in some areas. Limnic material is present below a depth of 6 to 10 feet in some areas.

Carlisle soils are similar to Linwood soils in that they have a surface layer of muck. The muck and peat layers are more than 51 inches thick in Carlisle soils and 20 to 51 inches thick in Linwood soils. Carlisle soils have a muck surface layer, whereas Wallkill soils have a mineral surface layer over muck or peat. Carlisle soils differ from Sloan, Luray, Pewamo, and other dark colored soils in having a muck, rather than a mineral, surface layer.

Chili Series

The Chili series consists of gently sloping to very steep, well drained soils that formed in outwash deposits. The largest areas of Chili soils are on terraces along the sides of valleys in the southern part of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown loam plow layer about 7 inches thick. The upper part of the subsoil, between depths of 7 and 10 inches, is yellowish brown loam; the lower part of the subsoil, between depths of 10 and 44 inches, is strong brown gravelly loam. The substratum, between depths of 44 and 60 inches, is yellowish brown, stratified loamy sand and gravel.

The areas of Chili soils that are gently sloping to sloping are used for crops. The principal crops are corn, soybeans, small grain, and hay. Chili soils are a potential source of sand and gravel.

Representative profile of Chili loam 2 to 6 percent slopes, in a cultivated field, in the NW¼NE¼ sec. 5, T. 20 N., R. 19 W. (Troy Township):

Ap-0 to 7 inches, dark grayish brown (10YR 4/2) loam; weak fine crumb structure; friable; medium acid; abrupt smooth boundary.

B1-7 to 10 inches, yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; friable; 10 percent gravel; strongly acid; clear wavy boundary.

B21t-10 to 16 inches, strong brown (7.5YR 5/6) gravelly loam; weak coarse subangular blocky structure; friable; moderately thick patchy yellowish brown (10YR 5/4) clay films on ped faces; 15 percent gravel; strongly acid; clear smooth boundary.

B22t-16 to 28 inches, strong brown (7.5YR 5/6) gravelly loam; very weak medium subangular blocky structure; friable; few patchy yellowish brown (10YR 5/4) clay films on ped faces; coarse fragments coated and bridged with clay; 25 percent gravel; strongly acid; clear smooth boundary.

B3-28 to 44 inches, strong brown (7.5YR 5/6) gravelly loam; massive; very friable; few coarse fragments bridged with clay; 40 percent gravel; strongly acid; clear smooth boundary.

C-44 to 60 inches, yellowish brown (10YR 5/4), stratified loamy sand and gravel; single grain; loose; 40 percent gravel; 15 percent silt and clay; medium acid.

The Ap horizon is dark grayish brown (10YR 4/2) or dark brown (10YR 4/3). In uncultivated areas the A1 horizon is very dark grayish brown (10YR 3/2) or very dark brown (10YR 2/2). This horizon is loam or gravelly loam and is less than 25 percent gravel. An A2 horizon is present in some areas and is as much as 5 inches thick in some uncultivated areas. The texture is similar to that of the A1 and Ap horizons. The A2 horizon is brown (10YR 5/3) and is free of mottles.

The B1 horizon is 2 to 8 inches thick and is brown or yellowish brown loam or gravelly loam that is 10 to 30 percent gravel. The B2t horizon is 18 to 30 inches thick. Its color has a hue of 10YR or 7.5YR, a value of 4 or 5, and a chroma of 4 to 6. It is gravelly loam or gravelly sandy clay loam and is 15 to 35 percent gravel.

The C horizon is highly stratified. It varies in texture and is 40 to 80 percent gravel. Individual strata vary widely in content and size of gravel. The C horizon ranges from gravelly loam and gravelly sandy loam to clean sand or gravel. The gravel in all horizons consists mainly of rounded sandstone fragments. The C horizon is typically brown or yellowish brown, but adjacent strata differ.

Reaction is strongly acid to medium acid in the solum and slightly acid in the C horizon. Depth to carbonates is more than 60 inches.

Chili soils are similar to Bogart soils in texture, but they have better natural drainage and are free of mottles to a greater depth. Chili soils are also similar to Belmore soils in texture, but they are more acid. The upper part of Chili soils is more gravelly and less silty than that of Wheeling soils. Chili soils resemble Conotton soils but have a less gravelly subsoil. Chili and Conotton soils that have slopes of more than 12 percent are mapped together. Chili soils are more gravelly than Wooster and Hanover soils and lack their dense fragipan.

Condit Series

The Condit series consists of nearly level, poorly drained soils that formed in glacial till. These soils are in depressions and low, level areas on till plains in the northern part of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 9 inches thick. The subsoil is firm silty clay loam and is 41 inches thick. The upper 21 inches of the subsoil is dark gray mottled with yellowish brown. The lower part is grayish brown mottled with yellowish brown. The substratum, between depths of 50 and 60 inches, is mottled yellowish brown and grayish brown clay loam glacial till. A few pebbles are throughout the profile.

Condit soils have poor tilth and are poorly suited to crops, even if drained. The areas are used for crops, pasture, and trees.

Representative profile of Condit silt loam in a cultivated field in the SW¼SW¼ sec. 6, T. 22 N., R. 18 W. (Franklin Township):

Ap-0 to 9 inches, dark grayish brown (10YR 4/2) silt loam; weak medium granular structure; friable; few fine pebbles; slightly acid; abrupt smooth boundary.

B21tg-9 to 19 inches, dark gray (10YR 4/1) silty clay loam; common coarse distinct mottles of yellowish brown (10YR 5/6) and common fine prominent mottles of dark brown (7.5YR 4/4); weak coarse prismatic structure that parts to moderate fine subangular blocky structure; firm; very dark gray (10YR 3/1) organic clay coatings on ped faces; few fine pebbles; medium acid; clear wavy boundary.

B22tg-19 to 30 inches, dark gray (10YR 4/1) silty clay loam; many medium and coarse, prominent mottles of yellowish brown (10YR 5/6); weak medium prismatic structure that parts to weak medium angular blocky structure; firm; thick continuous gray (10YR 5/1) clay films on ped surfaces; few fine pebbles; medium acid; gradual boundary.

B23tg-30 to 50 inches, grayish brown (10YR 5/2) silty clay loam; many coarse faint and distinct mottles of yellowish brown (10YR 5/4 and 5/6); weak coarse prismatic structure that parts to weak medium subangular blocky structure; firm; thick discontinuous, dark gray (5Y 4/1) clay films on prisms; 5 percent pebbles; neutral; gradual boundary.

C-50 to 60 inches; mottled yellowish brown (10YR 5/4) and grayish brown (10YR 5/2) clay loam; massive; firm; 5 percent pebbles; weakly calcareous; mildly alkaline.

The Ap horizon is dark grayish brown (10YR 4/2) or dark gray (10YR 4/1). In uncultivated areas, an A1 horizon is very dark gray (10YR 3/1) or very dark grayish brown (10YR 3/2) and is 2 to 5 inches thick. Texture of the A1 or Ap horizon is silt loam or silty clay loam. In some profiles a 2-inch to 6-inch A2g horizon is present. It is dark gray (10YR 4/1) or gray (10YR 5/1) and has mottles of a high chroma.

The B2t horizon is 30 to 44 inches thick and has a texture of silty clay loam, clay loam, or silty clay. In the part of the B2t horizon above a depth of 30 inches, the color of ped interiors has a hue of 5Y to 10YR, a value of 4 or 5, and a chroma of 1 or 2. In some areas the color of some parts of the B2t horizon below a depth of 30 inches has a chroma of 3 or 4. Ped surfaces are coated with a mixture of organic material and clay films. The color of these coatings has a hue of 5Y to 10YR, a value of 3 to 5, and a chroma of 1 or 2.

In some areas there is a B3 horizon that is leached of carbonates and shows structure development.

The calcareous C horizon is at a depth of 40 to 54 inches. It is firm clay loam or silty clay loam till.

Reaction is medium acid to strongly acid in the upper part of the B horizon and grades to neutral or slightly acid at the bottom of the B2t or B3 horizon.

Condit soils are similar to Bennington soils in texture but are more poorly drained and have a higher proportion of gray color in their subsoil. They are also similar to Pewamo soils in texture but have a lighter colored surface layer. Condit soils are similar to Sebring and Frenchtown soils in color, but they have a more clayey subsoil than Frenchtown soils and are more clayey, less silty, and more pebbly than Sebring soils.

Conotton Series

The Conotton series consists of gently sloping to very steep, well drained soils that formed in gravelly outwash deposited by swiftly moving water during and after glacial times. These soils are mainly on terraces along the sides of the major valleys in the southern part of the county.

A representative profile of this series, in a cultivated field, has a dark brown gravelly loam plow layer about 8 inches thick. The subsoil extends to a depth of 44 inches. The upper part is yellowish brown gravelly loam that extends to a depth of about 16 inches. The next part is brown very gravelly loam that extends to a depth of 38 inches. The next lower part is yellowish brown very gravelly sandy loam that extends to a depth of 44 inches. The substratum is yellowish brown gravel between depths of 44 and 60 inches. The surface layer is about 25 percent gravel; the subsoil, 35 to 70 percent; and the substratum, more than 70 percent.

Most areas of Conotton soils are small and are cropped or used for permanent pastures along with surrounding soils of greater extent.

Representative profile of Conotton gravelly loam, 2 to 12 percent slopes, in a cultivated field, in the NW¼ SW¼ sec. 14, T. 19 N., R. 18 W. (Jefferson Township):

Ap-0 to 8 inches, dark brown (10YR 4/3) gravelly loam; weak fine granular structure; friable; 25 percent gravel; slightly acid; abrupt, smooth boundary.

B1-8 to 16 inches, yellowish brown (10YR 5/4) gravelly loam; weak medium subangular blocky structure; friable; 35 percent gravel; strongly acid; clear wavy boundary.

B21t-16 to 38 inches, brown (7.5YR 4/4) very gravelly loam; massive; very friable; pebbles coated and bridged with clay; 60 percent gravel; strongly acid; clear smooth boundary.

B22t-28 to 44 inches, yellowish brown (10YR 5/4) very gravelly sandy loam; massive; very friable; pebbles coated and bridged with clay; 70 percent gravel; strongly acid; clear smooth boundary.

C-44 to 60 inches, yellowish brown (10YR 5/4) gravel; single grain; loose; 70 percent gravel; fines are sandy loam; medium acid.

The Ap horizon is dark brown (10YR 4/3) or dark grayish brown (10YR 4/2). In uncultivated areas the A1 horizon is very dark grayish brown (10YR 3/2) or very dark brown (10YR 2/2) gravelly loam or gravelly sandy loam. An A2 horizon, 2 to 5 inches thick, is present in some profiles. It is brown (10YR 5/3) or pale brown (10YR 6/3) gravelly loam or gravelly sandy loam.

The B1 horizon is 6 to 10 inches thick. It is brown or yellowish brown and is 20 to 35 percent gravel. The B2t horizon starts at a depth of 12 to 20 inches and extends to a depth of 40 to 54 inches. Its color has a hue of 10YR or 7.5YR, a value of 4 or 5, and a chroma of 4 to 6. It is very gravelly loam or very gravelly sandy loam. The B2t horizon is 50 to 75 percent gravel.

The C horizon commonly is gravel or very gravelly sand and is more than 70 percent gravel. Some stratification is commonly present. Strata differ in size and in content of gravel. Strata of gravelly loam or gravelly sandy loam are present in the C horizon in some areas. Most of the coarse fraction is rounded sandstone fragments less than 3 inches in diameter. The C horizon is commonly brown or yellowish brown, but it varies considerably.

The solum is medium acid to very strongly acid, and the C horizon is medium acid to neutral. No carbonates are present within a depth of 60 inches.

Conotton soils have a more gravelly subsoil than Chili or Belmore soils and are more acid than Belmore soils. Conotton and Chili soils having slopes steeper than 12 percent are not separated in mapping. Conotton soils have more gravel in their subsoil and have better natural drainage than Bogart soils. The coarse fragments in Conotton soils are mostly rounded gravel, but those in Berks soils are angular sandstone.

Coshocton Series

The Coshocton series consists of deep, moderately well drained soils. These soils formed in colluvium and weathered shale on the top and upper side slopes of unglaciated hills. Slope ranges from 2 to 15 percent.

Coshocton soils in Ashland County have sandier A, B1, and B2 horizons and lower base saturation at the paralithic contact than the soils that are typical of the series. These soils are not used intensively for farming, so the differences do not have much effect on use and management.

Coshocton soils are commonly adjacent to Lordstown, Rigley, and Schaffenaker soils. Their B horizons have much more clay than those of these other soils; they are mottled at a shallower depth, and they are underlain by shale rather than by sandstone.

Typical pedon of Coshocton loam, 6 to 15 percent slopes, in Hanover Township, Ashland

County, 400 feet south and 180 feet west of the junction of Township Roads 1079 and 3375, SW¼NW¼ sec. 30, T. 19 N., R. 16 W.

Ap-0 to 9 inches; dark brown (10YR 4/3) loam; weak fine granular structure; friable; 5 percent sandstone fragments; strongly acid; abrupt smooth boundary.

B1-9 to 13 inches; yellowish brown (10YR 5/6) coarse sandy loam; weak fine subangular blocky structure; friable; 5 percent sandstone fragments; strongly acid; clear wavy boundary.

B21t-13 to 20 inches; yellowish brown (10YR 5/6) sandy clay loam; common medium distinct grayish brown (10YR 5/2) mottles; moderate medium and coarse subangular blocky structure; firm; common thin brown (10YR 5/3) clay films and occasional light brownish gray (10YR 6/2) mottles on faces of peds; 15 percent of volume consists of irregularly shaped masses of sandy clay loam or sandy loam; few sandstone fragments; very strongly acid; gradual smooth boundary.

B22t-20 to 28 inches; yellowish brown (10YR 5/6) sandy clay loam; many fine distinct gray (10YR 5/1) mottles; moderate coarse subangular blocky structure; firm; common thin yellowish brown (10YR 5/4) clay films on peds; common dark Fe-Mn concretions; few pockets of sandy loam; 5 percent angular gravel; few sandstone fragments; very strongly acid; abrupt wavy boundary.

IIB23t-28 to 37 inches; brownish yellow (10YR 6/6) clay loam; common coarse prominent gray (10YR 5/1) and light gray (10YR 6/1) mottles; strong very coarse prismatic structure parting to moderate very thick platy; very firm; prism coats are pinkish gray (7.5YR 7/2), light gray (10YR 7/2), and yellowish brown (10YR 5/6) and have thin patchy clay films; faces of plates are grayish brown (10YR 5/2); sand grains evident in some vertical cleavages; very strongly acid; abrupt wavy boundary.

IIC-37 to 45 inches; variegated dark gray (5YR 4/1), pinkish gray (7.5YR 6/2), light brownish gray (10YR 6/2), and very pale brown (10YR 7/3) very shaly silty clay loam; weak thick platy structure; 55 percent shale fragments; very strongly acid; abrupt wavy boundary.

R-45 to 60 inches; hard shale, siltstone, and very fine grained sandstone; base color light brownish gray (2.5Y 6/2); many stains of other colors.

Thickness of the solum ranges from 30 to 40 inches. Lithic contact is at a depth greater than 40 inches. Colluvial deposits are 18 to 36 inches thick over weathered shale. Reaction throughout the solum ranges from very strongly acid to extremely acid if the soil has not been limed. Base saturation at the paralithic contact ranges from 20 to 35 percent. Coarse fragments in the upper part of the solum make up 5 to 20 percent of the volume and are mostly medium- to coarse-grained sandstone fragments. Fragments of hard rock make up less than 10 percent of the lower part of the profile, but there are many soft shale chips.

In an uncultivated area, the A1 horizon is 2 to 4 inches thick and is very dark brown (10YR 2/2) or very dark grayish brown (10YR 3/2). There is an A2 horizon in most uncultivated areas, and a remnant remains in some that are cultivated. The Ap horizon is dark grayish brown (10YR 4/2) or dark brown (10YR 4/3) in uneroded places and ranges to brown (10YR 5/3) in those that are eroded. The Ap horizon typically is silt loam or loam, but it ranges to sandy loam in places where the soil material farther up the slope is sandy. The B1 horizon has hue of 10YR, value of 4 to 6, and chroma of 3 to 6 and is not mottled. It is silt loam, loam, light clay loam, sandy clay loam, or sandy loam.

The part of the B2t horizon that formed in colluvium has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 3 to 6. The texture is silty clay loam, clay loam, or sandy clay loam, and there are thin layers or pockets of sandy loam in some pedons.

The lower part of the Bt horizons formed in weathered shale. It has a wide range of color and in most pedons is highly variegated. It is heavy silty clay loam, heavy clay loam, or clay. The C horizon is highly variegated weathered shale.

Digby Series

The Digby series consists of nearly level to gently sloping, somewhat poorly drained soils that formed in a mixture of loamy, sandy, and gravelly soil material deposited by water. These soils are gently undulating. They are on outwash plains in the northwestern part of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown loam plow layer 12 inches thick. This layer is underlain by 2 inches of brown sandy loam mottled with yellowish brown. The subsoil is 18 inches thick and consists of yellowish brown loam mottled with grayish brown. The substratum, between depths of 32 and 50 inches, consists of stratified yellowish brown and grayish brown loam, sandy loam, and thin bands of loamy sand and clay loam. Between depths of 50 and 60 inches, it consists of yellowish brown coarse sand mottled with gray and thin bands of sandy loam mottled with gray and yellowish brown.

Representative profile of Digby loam, 1 to 4 percent slopes, in a cultivated field, in the SW¼SW¼ sec. 1, T. 22 N., R. 20 W. (Plymouth Township):

Ap-0 to 12 inches, dark grayish brown (10YR 4/2) loam; weak fine crumb structure; friable; neutral; abrupt smooth boundary.

A2-12 to 14 inches, brown (10YR 5/3) sandy loam; common fine faint mottles of grayish brown (10YR 5/2) and common medium distinct mottles of yellowish brown (10YR 5/6); moderate thick platy structure that parts to weak fine subangular blocky structure; friable; slightly acid; clear wavy boundary.

B21t-14 to 22 inches, yellowish brown (10YR 5/4) loam; common coarse distinct mottles of grayish brown (10YR 5/2) and yellowish brown (10YR 5/6); moderate medium subangular blocky structure; friable; very patchy light brownish gray (10YR 6/2) silty coatings and grayish brown (10YR 5/2) clay films on ped faces; 10 percent gravel; slightly acid; clear wavy boundary.

B22t-22 to 32 inches, yellowish brown (10YR 5/4) loam; common medium distinct mottles of grayish brown (10YR 5/2) and yellowish brown (10YR 5/6); moderate medium subangular blocky structure; friable; continuous ped coatings consist of silty coatings and clay films and are dominantly grayish brown (10YR 5/2) with patches of yellowish brown (10YR 5/4 and 5/6); 10 percent gravel; slightly acid; clear smooth boundary.

Cl-32 to 50 inches, yellowish brown (10YR 5/4 and 5/6) and grayish brown (10YR 5/2) stratified loam and sandy loam and thin bands of loamy sand and clay loam; massive; friable to loose; 10 percent gravel; neutral; clear smooth boundary.

C2-50 to 60 inches, yellowish brown (10YR 5/4) coarse sand and thin bands of sandy loam; common fine distinct mottles of gray (10YR 5/1) and yellowish brown (10YR 5/6), in sandy loam bands; single grain; loose; 10 percent gravel; neutral.

The Ap horizon is dark grayish brown (10YR 4/2) or brown (10YR 4/3). In uncultivated areas, an A1 horizon is 2 to 5 inches thick and is very dark gray (10YR 3/1) or very dark grayish brown (10YR 3/2). The A2 horizon is absent in some cultivated areas. Where present, its color has a hue of 10YR, a value of 5 or 6, and a chroma of 2 or 3, and mottles of higher chroma.

A thin B1 horizon is present in some areas. The texture of the B2t horizon is loam, gravelly loam, or gravelly sandy clay loam. The gravel content ranges from almost none to 25 percent. The base color of ped interiors has a hue of 10YR, a value of 4 or 5, and a chroma of 3 or 4. The color of coatings on ped faces has a hue of 10YR or 2.5Y, a value of 4 or 5, and a chroma of 1 or 2. These coatings consist of clay films and silty degradational material. Clay bridging is evident between coarse fragments in the more gravelly profiles.

The C horizon is stratified gravelly sandy loam, gravelly loam, sand, and gravelly sand. It contains thin layers of clean gravel in some areas. The gravel content of the C horizon ranges from 5 to 30 percent. The color varies, but is dominantly brown or yellowish brown, with some mottling.

Reaction is medium acid to neutral in the solum and neutral to moderately alkaline in the C horizon. Depth to carbonates ranges from 36 inches to more than 60 inches.

Digby soils are similar to Haney soils in texture, but they have poorer natural drainage and grayer coatings on peds in the subsoil. Digby soils are more gravelly and less silty than Fitchville soils and are more gravelly and less clayey than Bennington soils.

Fitchville Series

The Fitchville series consists of nearly level to gently sloping, somewhat poorly drained, soils that formed in silty lacustrine deposits. The areas are in all parts of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 6 inches thick. This is underlain by 3 inches of brown silt loam mottled with grayish brown and yellowish brown. Beginning at a depth of 9 inches, the subsoil extends to a depth of 42 inches. Between depths of 9 and 13 inches, it is yellowish brown silt loam mottled with grayish brown; between depths of 13 and 30 inches, it is yellowish brown, firm silty clay loam mottled with light brownish gray; and between depths of 30 and 42 inches, it is yellowish brown, firm silty clay loam mottled with grayish brown. The substratum, between depths of 42 and 46 inches, is yellowish brown fine sandy loam mottled with grayish brown and, between depths of 46 and 60 inches, is yellowish brown silt loam mottled with gray. The profile is free of stones and pebbles in the upper 4 feet but in some areas pebbly or gravelly layers are below this depth.

If these soils are drained, they are well suited to crops. Most areas are used for crops. The crops grown depend on location in the county and the use of surrounding soils, but crops commonly include corn, soybeans, and small grain.

Representative profile of Fitchville silt loam, 0 to 2 percent slopes, in a cultivated field in the SW¼NW¼ sec. 8, T. 23 N., R. 18 W. (Blooming Grove Township):

Ap-0 to 6 inches, dark grayish brown (10YR 4/2) silt loam; strong fine granular structure; friable; medium acid; abrupt smooth boundary.

A2-6 to 9 inches, brown (10YR 5/3) silt loam; many medium faint grayish brown (10YR 5/2) mottles and many medium distinct yellowish brown (10YR 5/6) mottles; weak thin platy structure; friable; strongly acid; clear irregular boundary.

Bl-9 to 13 inches, yellowish brown (10YR 5/4) silt loam; many coarse faint grayish brown (10YR 5/2) and yellowish brown (10YR 5/6) mottles; weak coarse subangular blocky structure; friable; few brown (10YR 5/3) degradational silt coatings; strongly acid; clear wavy boundary.

B21t-13 to 30 inches, yellowish brown (10YR 5/4) silty clay loam; many fine distinct light brownish gray (10YR 6/2) mottles and many fine faint yellowish brown (10YR 5/6) mottles; weak coarse prismatic structure that parts to strong medium angular blocky structure; firm; continuous light brownish gray (2.5Y 6/2) ped coatings that include thin, patchy clay films; few pale brown (10YR 6/3) degradational silt coatings on ped faces; strongly acid; gradual boundary.

B22t-30 to 42 inches, yellowish brown (10YR 5/4) silty clay loam; many, medium, faint, grayish brown (10YR 5/2) and yellowish brown (10YR 5/6) mottles; weak medium prismatic structure that parts to moderate medium subangular blocky structure; firm; continuous grayish brown (2.5Y 5/2) ped coatings that include patchy clay films of moderate thickness; medium acid; abrupt smooth boundary.

Cl-42 to 46 inches, yellowish brown (10YR 5/4) fine sandy loam; few coarse faint grayish brown (10YR 5/2) and yellowish brown (10YR 5/6) mottles; massive; friable; slightly acid; clear wavy boundary.

C2-46 to 60 inches, yellowish brown (10YR 5/4) silt loam; many, coarse distinct light gray (10YR 7/2) mottles and few medium faint yellowish brown (10YR 5/6) mottles; massive; mildly alkaline; calcareous.

In uncultivated areas an A1 horizon is 3 to 5 inches thick and is very dark gray (10YR 3/1) or very dark grayish brown (10YR 3/2). The A2 horizon is as much as 8 inches thick in some uncultivated areas and is absent in some cultivated areas. It is grayish brown (10YR 5/2) or brown (10YR 5/3) and is mottled.

The B1 horizon is 3 to 8 inches thick. The B2t horizon is 16 to 32 inches thick and is silt loam or silty clay loam. The dominant color of ped interiors generally has a hue of 10YR or 2.5Y, a value of 4 or 5, and a chroma of 3 to 5. Mottles of low chroma are present. The dominant color of ped exteriors has a hue of 10YR or 2.5Y, a value of 4 to 6, and a chroma of 1 or 2. There is a B3 horizon that shows structure development in some Fitchville soils.

The C horizon is stratified. Texture generally is silt loam and silty clay loam, but thin strata of loam or fine sandy loam

are commonly present. Adjacent strata commonly differ slightly in color but are dominantly yellowish brown or brown.

Reaction is medium acid to strongly acid in the B1 horizon and in the upper part of the B2t horizon and becomes medium acid to neutral in the lower part of the B2t horizon or the B3 horizon. Depth to carbonates is more than 40 inches. Reaction is slightly acid to mildly alkaline at a depth of 60 inches, where no carbonates are present. The profile is essentially free of coarse fragments in the upper 4 feet, but a few pebbles and thin gravelly layers are present below a depth of 4 feet in some areas.

Fitchville soils are similar to Glenford and Sebring soils in texture but differ from them in color and natural drainage. They are mottled at a shallower depth than Glenford soils, and they are grayer in the subsoil and are poorer in natural drainage. They have more brown and less gray in their subsoil than Sebring soils and have better natural drainage. Fitchville soils have a lighter colored surface layer than Luray soils. They are siltier and less gravelly than Digby soils. In the upper parts of their profiles, the Fitchville soils and the Fitchville soils, gravelly subsoil variant, are similar, but the Fitchville soils are silty to a greater depth. Fitchville soils are siltier and less gravelly than Bennington, Ravenna, and Wadsworth soils, and they lack the dense fragipan layer that is present in Ravenna and Wadsworth soils. Fitchville soils are silty to a greater depth than Tiro soils.

Fitchville, Gravelly Subsoil Variant

The Fitchville, gravelly subsoil variant, consists of nearly level to gently sloping, somewhat poorly drained soils that formed in lacustrine material. These soils are generally silty in the upper part and sandy or gravelly in the lower part. They are on stream terraces in the central and southern parts of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 11 inches thick. This layer is underlain by 2 inches of grayish brown silt loam mottled with yellowish brown. Beginning at a depth of 13 inches, the subsoil extends to a depth of 36 inches. Between depths of 13 and 16 inches, it is grayish brown, silty clay loam mottled with yellowish brown. Between depths of 16 and 24 inches, it is yellowish brown, silty clay loam mottled with grayish brown and yellowish brown. Between depths of 24 and 30 inches, it is yellowish brown, light silty clay loam mottled with grayish brown. Between depths of 30 and 36 inches, it is gravelly sandy clay loam that has a mixture of grayish brown and yellowish brown colors. This lower part of the subsoil contains considerably more sand and gravel than the upper part. The substratum, to a depth of 60 inches, consists of many thin layers of sandy and gravelly materials that vary in color, consistence, and gravel content. A few pebbles are in the upper part of the profile.

If these soils are drained, they are well suited to crops. Most areas are small and are cropped along with surrounding soils of greater extent. Corn, soybeans, small grain, and hay are the main crops.

Representative profile of Fitchville silt loam, gravelly subsoil variant, 0 to 2 percent slopes, in a cultivated field, in the SW¼NW¼ sec. 36, T. 19 N., R. 20 W. (Sandusky Township):

Ap-0 to 11 inches, dark grayish brown (10YR 4/2) silt loam; moderate fine granular structure; friable; slightly acid; abrupt smooth boundary.

A2-11 to 13 inches, grayish brown (10YR 5/2) silt loam; many fine distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; medium acid; clear irregular boundary.

B1-13 to 16 inches, grayish brown (10YR 5/2) silty clay loam; common coarse distinct yellowish brown (10YR 5/6) mottles; moderate fine subangular blocky structure; friable; grayish brown (10YR 5/2), degradational silt coatings on ped surfaces; medium acid; gradual smooth boundary.

B21t-16 to 24 inches, yellowish brown (10YR 5/6) silty clay loam; many coarse distinct grayish brown (10YR 5/2) mottles and common fine faint yellowish brown (10YR 5/8) mottles; moderate fine angular blocky structure; firm; continuous grayish brown (10YR 5/2) coatings that include thin patchy clay films on ped surfaces; strongly acid; clear wavy boundary.

B22t-24 to 30 inches, yellowish brown (10YR 5/6) silty clay loam; many coarse distinct grayish brown (10YR 5/2) mottles; weak coarse prismatic structure that breaks to moderate fine subangular blocky structure; firm; continuous grayish brown (10YR 5/2) clay films on ped surfaces; strongly acid; abrupt, smooth boundary.

IIB3-30 to 36 inches, mottled, yellowish brown (10YR 5/4 and 5/6) and grayish brown (10YR 5/2) gravelly sandy clay loam; weak coarse subangular blocky structure; friable; few clay films; 20 percent gravel; medium acid; abrupt smooth boundary.

IIC1-36 to 54 inches, mottled, light brownish gray (10YR 6/2), brown (10YR 5/3) and yellowish brown (10YR 5/8) stratified gravelly loam, sandy loam and loam; massive; very friable; medium acid; abrupt smooth boundary.

IIC2-54 to 60 inches, dark brown (10YR 4/3) stratified sandy loam and gravelly loam; thin strata of sand and gravel; single grain; loose; slightly acid.

Depth to the sandy loam or gravelly loam ranges from 24 to 40 inches. In uncultivated areas, the A1 horizon is very dark grayish brown (10YR 3/2) or very dark gray (10YR 3/1) and is 2 to 5 inches thick. The A2 horizon is as much as 7 inches thick and is absent in some cultivated areas. It is grayish brown (10YR 5/2), gray (10YR 5/1), or light brownish gray (10YR 6/2) and has mottles of higher chroma.

The B1 horizon is 2 to 6 inches thick. It is grayish brown or yellowish brown and is mottled. It shows a varying amount of degradation.

The B2t horizon is 12 to 26 inches thick. The base color of the ped interiors has a hue of 10YR or 2.5Y, a value of 4 or 5, and a chroma of 4 to 6. Mottles of lower chroma are present. The dominant color of ped exteriors and coatings has a hue of 10YR or 2.5Y, a value of 4 to 6, and a chroma of 1 or 2. The texture of the B2t horizon is silt loam or silty clay loam. The lower boundary of the B2t horizon commonly coincides with the contact between the two types of soil materials. In a few areas it is above the contact, and a silt loam B3 horizon is present. In a few other areas, the upper 4 to 8 inches of the gravelly loam material is part of the B2t horizon.

The C horizon is stratified. The material is sandy or gravelly, but individual strata differ greatly in gravel content

and amount of fines. Texture commonly is gravelly loam, gravelly sandy loam, gravelly loamy sand, gravelly sand, sand, and gravel. The color of strata varies, but yellowish brown, brown, and grayish brown are dominant. Mottles are evident in the more consolidated strata. The gravel of the C horizon consists primarily of rounded and angular sandstone fragments.

Reaction in the A2 and B horizons is medium acid to strongly acid. The C horizon is medium acid to mildly alkaline. Depth to carbonates is more than 60 inches.

Fitchville soils, gravelly subsoil variant, are similar to Bogart silt loams in texture but have poorer natural drainage and grayer coatings on peds in their subsoil. They are siltier and less gravelly in the upper part of the profile than Digby soils and are more acid. They are sandy or gravelly at a depth of 24 to 40 inches, whereas typical Fitchville soils are silty to a depth of 4 feet or more.

Frenchtown Series

The Frenchtown series consists of nearly level, poorly drained soils that formed in glacial till. Some areas are in closed depressions. Frenchtown soils are in the central and southern parts of the county.

A representative profile of this series, in a wooded area, has a silt loam surface layer about 5 inches thick that is dark grayish brown mottled with brown. The subsurface layer is silt loam, and it extends to a depth of 12 inches. It is dark gray mottled with yellowish red. The upper part of the subsoil, between depths of 12 and 22 inches, is firm silty clay loam that is gray mottled with brown. The lower part of the subsoil, or fragipan, begins at a depth of 22 inches and extends to a depth of 40 inches. It is very firm silt loam that has a mixture of gray, grayish brown, and yellowish brown colors. Through it are vertical streaks of gray soil that intersect to form blocks. The interiors of the blocks are very dense and are not easily penetrated by roots or water. Below the fragipan, between depths of 40 and 60 inches, is yellowish brown, firm loam glacial till. This till grades from slightly acid to neutral with depth. A few small, sharp pebbles are in all part of the profile.

Frenchtown soils are generally poorly suited to crops. Most areas of these soils are small and are used along with surrounding soils for crops and pasture.

Representative profile of Frenchtown silt loam, in a wooded area, in the NE¼SW¼, sec. 19, T. 21 N., R. 18 W. (Madison Township):

A1-0 to 5 inches, dark grayish brown (10YR 4/2) silt loam; common fine distinct strong brown (7.5YR 5/8) mottles; weak coarse granular structure; friable; few angular coarse fragments; slightly acid; clear irregular boundary.

A2g-5 to 12 inches, dark gray (10YR 4/1) silt loam; many medium and fine prominent yellowish red (5YR 4/6) mottles; moderate fine subangular blocky structure; friable; very dark grayish brown (10YR 3/2) fillings in old root channels; few angular coarse fragments; slightly acid; clear, wavy boundary.

B2tg-12 to 22 inches, gray (10YR 5/1) light silty clay loam; many medium prominent strong brown (7.5YR 5/6) mottles; moderate fine subangular blocky structure; firm; patchy dark gray (10YR 4/1) clay films on ped faces; common very dark grayish brown (10YR 3/2) manganese concretions; few angular coarse fragments; medium acid; clear wavy boundary.

Bx1-22 to 32 inches, gray (10YR 5/1) and grayish brown (10YR 5/2) silt loam; many medium prominent, yellowish brown (10YR 5/6) mottles; weak very coarse prismatic structure that parts to weak coarse subangular blocky structure; firm; slightly brittle; prism faces coated with gray (10YR 5/1) clay films and a network of yellowish red (5YR 5/8) root channel fillings; few manganese concretions; few angular coarse fragments; strongly acid; clear smooth boundary.

Bx2-32 to 40 inches, grayish brown (10YR 5/2) silt loam; many coarse distinct yellowish brown (10YR 5/6 and 5/4) mottles; moderate coarse prismatic structure that parts to moderate medium subangular blocky structure; very firm, brittle; gray (10YR 5/1) clay films on peds; few angular coarse fragments; strongly acid; diffuse irregular boundary.

B31-40 to 50 inches, yellowish brown (10YR 5/6) loam; common coarse faint yellowish brown (10YR 5/4) and brown (10YR 5/3) mottles and common coarse distinct grayish brown (10YR 5/2) mottles; massive; firm; few vertical partings with grayish brown (10YR 5/2) coatings; common angular coarse fragments; slightly acid; gradual boundary.

B32-50 to 60 inches, yellowish brown (10YR 5/4) loam; many, coarse, distinct, gray (10YR 5/1) mottles; massive; firm; few vertical partings with dark gray (10YR 4/1) coatings; common, angular, coarse fragments; neutral.

The A1 horizon is very dark gray (10YR 3/1), very dark grayish brown (10YR 3/2), or dark grayish brown (10YR 4/2). It is less than 6 inches thick and is not mottled in all areas. In cultivated areas the plow layer is dark grayish brown (10YR 4/2) or dark gray (10YR 4/1) and is not mottled. A thin A2 horizon is present in many uncultivated areas and in a few cultivated areas. It is typically silt loam that has a gray or grayish brown base color and distinct mottles of higher chroma. The A2g horizon is 3 to 8 inches thick. Its dominant color has a chroma of 1 or 2, and the mottles have a higher chroma.

The B horizon above the fragipan is as much as 12 inches thick. It has a hue of 10YR or 2.5Y, a value of 4 or 5, and a chroma of 1 or 2. Mottles of higher chroma are present in the ped interiors. The texture of this part of the B horizon is fine loam, silt loam, light clay loam, or silty clay loam. Clay films are on ped surfaces.

The fragipan begins at a depth of 13 to 24 inches and is 16 to 30 inches thick. Its texture is similar to that of the horizon above. The structure is prismatic or polygonal that parts to platy or subangular blocky structure. Ped surfaces are coated with clay films of gray or grayish brown. Silty films are also present in some areas. Ped interiors have a mixture of gray or grayish brown and brown or yellowish brown colors. Leaching and clay movement are evident to a depth of 6 to 18 inches below the bottom of the fragipan.

The B3 horizon is loam or clay loam in texture. Reaction in and above the fragipan is medium or strongly acid. Reaction becomes less acid with depth below the fragipan. The depth to carbonates is more than 50 inches. Reaction at a depth of 60 inches, where no carbonates are present, is slightly acid to mildly alkaline.

Frenchtown soils are similar to Wadsworth and Ravenna soils in texture but have a grayer subsoil and poorer natural drainage than those soils, and are generally in lower positions. They have more pebbles than Sebring soils and have a firmer, denser subsoil. Frenchtown soils are similar to Condit soils in color but have a firmer, less clayey subsoil and are acid to a greater depth. They have a lighter colored surface layer than Pewamo soils.

Gilpin Series

The Gilpin series consists of moderately deep, well drained, moderately permeable soils on uplands. These soils generally are on ridgetops but in a few areas are on benches. They formed in material weathered from siltstone and fine grained sandstone. Slope ranges from 2 to 12 percent.

Gilpin soils are similar to Loudonville soils and commonly are adjacent to the deep Brownsville, Coshocton, Rigley, and Westmoreland soils. Brownsville and Westmoreland soils are on hillsides below the Gilpin soils. Coshocton soils are moderately well drained. Their positions on the landscape are similar to those of the Gilpin soils. Loudonville soils formed mainly in glacial till. Their solum has a higher content of rounded coarse fragments than that of the Gilpin soils. Rigley soils have more sand throughout than the Gilpin soils. They are on the higher ridges.

Typical pedon of Gilpin silt loam, 2 to 6 percent slopes, about 4 miles northwest of Danville; in an area of Brown Township, Knox County, about 780 feet west along Breckler Road from the intersection of Breckler and Wildcat Roads, then about 1,250 feet south, T. 8 N., R. 11 W:

Ap-0 to 9 inches; brown (10YR 4/3) silt loam; weak very fine granular structure; friable; about 6 percent rock fragments; neutral; abrupt smooth boundary.

BA-9 to 13 inches; yellowish brown (10YR 5/6) silt loam; weak fine subangular blocky structure; friable; about 10 percent rock fragments; slightly acid; clear irregular boundary.

Bt1-13 to 19 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; common faint yellowish brown (10YR 5/4) clay films on faces of peds; about 5 percent rock fragments; medium acid; clear irregular boundary.

Bt2-19 to 25 inches; yellowish brown (10YR 5/6) silt loam; weak very coarse subangular blocky structure parting to moderate fine subangular blocky; firm; common faint yellowish brown (10YR 5/4) clay films on faces of peds; common olive yellow (2.5Y 6/6) pockets of soil material weathered from sandstone fragments; about 10 percent rock fragments; very strongly acid; clear irregular boundary.

Bt3-25 to 33 inches; strong brown (7.5YR 5/6) silt loam; moderate medium subangular blocky structure; firm; few faint yellowish brown (10YR 5/6) clay films on faces of peds; common light yellowish brown (10YR 6/4) pockets of soil material weathered from sandstone fragments; about 5 percent rock fragments; very strongly acid; clear smooth boundary.

BC-33 to 37 inches; yellowish brown (10YR 5/4) channery loam; weak fine subangular blocky structure; firm; about 30 percent light yellowish brown (2.5Y 6/4) sandstone fragments; very strongly acid; abrupt smooth boundary.

R-37 to 39 inches; brownish yellow (10YR 6/6) hard fractured fine grained sandstone; beds 0.25 to 0.5 inch thick in the upper part, increasing to 0.75 inch to 1.5 inches thick with increasing depth.

The thickness of the solum and the depth to bedrock range from 20 to 40 inches. In unlimed areas the solum is strongly acid or very strongly acid. The content of thin, flat sandstone fragments is 5 to 30 percent in the Bt horizon and 30 to 60 percent in the BC and C horizons.

Pedons in uncultivated areas have A and E horizons. The Bt horizon has hue of 10YR or 7.5YR, value of 5, and chroma of 4 to 6. It is loam, silt loam, silty clay loam, or the channery analogs of these textures. The content of clay in this horizon is 18 to 30 percent. Highly weathered sandstone fragments are common in the Bt horizon, especially in the lower part, and in the BC horizon. They have hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 8. Some pedons have a C horizon.

The BC and C horizons are the channery or very channery analogs of loam or silt loam.

Gilpin soils have more clay in the B horizon than Lordstown soils and lack the mantle of glacial till that is present in Loudonville soils.

Glenford Series

The Glenford series consists of nearly level to sloping, moderately well drained, soils. These soils formed in lacustrine sediment that is high in content of silt. They are in all parts of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 10 inches thick. The upper 6 inches of the subsoil consists of yellowish brown silt loam. The lower part, between depths of 16 and 40 inches, is yellowish brown, firm silty clay loam mottled with grayish brown. The substratum, between depths of 40 and 54 inches, is yellowish brown, friable, stratified silt loam and loam mottled with grayish brown. This layer becomes less acid with increasing depth. The substratum, between depths of 54 and 60 inches, is brown silt loam mottled with grayish brown and yellowish brown.

Permeability is moderately slow, and available moisture capacity is high. Runoff is slow to moderate. Sloping areas are subject to erosion if not protected. Tilth is good. The root zone is deep, and it is medium acid or strongly acid. Natural drainage is generally adequate for most purposes, although the soils are occasionally wet for brief periods.

Most areas of Glenford soils are used for crops. The main crops grown depend upon

location in the county but commonly include corn, soybeans, and small grain.

Representative profile of Glenford silt loam, 2 to 6 percent slopes, in a cultivated field, in the SE¼SE¼ sec. 24, T. 22 N., R. 20 W. (Plymouth Township):

Ap-0 to 10 inches, dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; slightly acid; abrupt smooth boundary.

B1-10 to 16 inches, yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; few pale brown (10YR 6/3) silt coatings; medium acid; clear wavy boundary.

B21t-16 to 26 inches, yellowish brown (10YR 5/6) silty clay loam; common fine faint grayish brown (10YR 5/2) mottles; moderate fine subangular blocky structure; firm; discontinuous brown (10YR 5/3) clay films on ped faces; medium acid; gradual smooth boundary.

B22t-26 to 40 inches, yellowish brown (10YR 5/4) silty clay loam; common medium faint grayish brown (10YR 5/2) mottles; moderate medium subangular blocky structure; firm; patchy brown (10YR 5/3) clay films on ped faces; medium acid; gradual boundary.

C1-40 to 54 inches, yellowish brown (10YR 5/4 and 5/6) stratified silt loam and loam mottled with grayish brown (10YR 5/2); massive; friable; thin lenses of fine sandy loam and silty clay loam; slightly acid; gradual boundary.

C2-54 to 60 inches; brown (10YR 5/3) silt loam; common medium faint grayish brown (10YR 5/2) mottles and common fine distinct yellowish brown (10YR 5/6) mottles; massive; friable; slightly acid.

In uncultivated areas, the A1 horizon is 2 to 4 inches thick, and is very dark grayish brown (10YR 3/2). An A2 horizon 2 to 6 inches thick is present in most uncultivated areas and in some cultivated areas. It is brown (10YR 5/3) or pale brown (10YR 6/3) silt loam that has weak, platy or subangular blocky structure.

The B1 horizon is 4 to 8 inches thick. Its color is yellowish brown (10YR 5/4) or dark yellowish brown (10YR 4/4). It exhibits varying amounts of degradational silt coatings.

The B2t horizon has a total thickness of 20 to 32 inches. It has a texture of silt loam or silty clay loam. The base color of the B2t horizon has a hue of 10YR or 7.5YR, a value of 4 or 5, and a chroma of 4 to 6. A B3 horizon that shows evidence of structure development is present below the B2t horizon in some pedons.

The C horizon is stratified. Silt loam and silty clay loam textures predominate, but strata of loam, fine sandy loam, and silty clay are present in many areas. Individual strata differ in color. Yellowish brown and grayish brown predominate. Reaction in the B1 and upper B2t horizons is medium acid to strongly acid. In the B3 and C horizons, reaction becomes less acid with increasing depth and is slightly acid to mildly alkaline at a depth of 60 inches.

Glenford soils are similar to Mentor soils and Fitchville soils in texture, but their natural drainage is poorer than that of Mentor soils, and they are mottled at a shallower depth. They have better natural drainage than Fitchville soils and a browner, less gray subsoil. The upper part of the Glenford silt loam is similar to the upper part of the Bogart silt loam, but Bogart silt loam has sandy or gravelly material at a depth of 20 to 40 inches, whereas Glenford silt loam has silty material to a depth of 4 feet or more. Glenford soils have a siltier, less pebbly subsoil than Canfield, Rittman, and Cardington soils. In addition, they lack the fragipan that is present in Canfield and Rittman soils, and they are lower in clay content than Cardington soils. Glenford soils are siltier and contain less rounded gravel than Bogart or Haney soils.

Gresham Series

The Gresham series consists of gently sloping, somewhat poorly drained soils that formed in old glacial till that has been leached of natural lime. These soils have a dense fragipan that restricts the growth of roots and the movement of water. They are in draws, most of which contain springs. These soils are in the south eastern part of the county.

A representative profile of this series, in a pasture, has a 4-inch surface layer of dark grayish brown silt loam. Below this is a 6-inch subsurface layer of grayish brown silt loam mottled with dark brown, brown, and yellowish brown. The upper part of the subsoil consists of 6 inches of brown silt loam mottled with grayish brown and yellowish brown and 7 inches of firm silt loam that has a mixture of grayish brown and yellowish brown colors. The lower part of the subsoil contains the fragipan. It is very firm, dense silt loam that also has a mixture of grayish brown and yellowish brown colors. This layer extends to a depth of 52 inches. Between depths of 52 and 60 inches, the subsoil is friable, brown loam mottled with grayish brown and yellowish brown.

Representative profile of Gresham silt loam, 2 to 6 percent slopes, in a pasture, in the NE¼NE¼ sec. 12, T. 19 N., R. 18 W. (Jefferson Township):

A1-0 to 4 inches, dark grayish brown (10YR 4/2) silt loam; weak fine crumb structure; friable; medium acid; clear wavy boundary.

A2-4 to 10 inches, grayish brown (10YR 5/2) silt loam; common fine faint dark brown (7.5YR 4/4) mottles and common medium faint brown (10YR 5/3) and yellowish brown (10YR 5/4 and 5/6) mottles; moderate medium platy structure; friable; strongly acid; clear wavy boundary.

B1-10 to 16 inches; brown (10YR 5/3) silt loam; common medium; faint grayish brown (10YR 5/2) mottles and few fine prominent yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; friable; few pale brown (10YR 6/3) silty coatings; 5 percent pebbles; strongly acid; clear irregular boundary.

B2t-16 to 23 inches, grayish brown (10YR 5/2) silt loam; many coarse prominent yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; grayish brown (10YR 5/2) clay films and a few light brownish gray (10YR 6/2) silt coatings on ped faces; 5 percent coarse fragments; strongly acid; clear smooth boundary.

Bx1-23 to 34 inches; grayish brown (10YR 5/2) silt loam; common coarse prominent yellowish brown (10YR 5/8) mottles; weak coarse prismatic structure that parts to moderate medium subangular blocky structure; very firm, brittle; grayish brown (10YR 5/2) clay films on prisms and blocks; patchy light brownish gray (10YR 6/2) silt coatings on upper parts

of prisms; 5 percent coarse fragments; strongly acid; gradual smooth boundary.

Bx2-34 to 52 inches; grayish brown (10YR 5/2) silt loam; common coarse prominent yellowish brown (10YR 5/8) mottles; weak coarse prismatic structure that breaks to moderate medium subangular blocky structure; very firm, brittle; grayish brown (10YR 5/2) clay films on prism faces; 5 percent very dark brown (10YR 2/2) manganese concretions; 10 percent coarse fragments; strongly acid; clear wavy boundary.

B3-52 to 60 inches; brown (10YR 5/3) loam; common coarse faint grayish brown (10YR 5/2) mottles and common medium distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; 10 percent coarse fragments; strongly acid.

In cultivated areas the Ap horizon is dark grayish brown (10YR 4/2). The A2 horizon is absent in some cultivated areas, and it is as much as 8 inches thick in some uncultivated areas. Its color has a hue of 10YR, a value of 4 or 5, and a chroma of 1 or 2. The mottles have a higher chroma.

The B1 horizon is 2 to 8 inches thick. It has a base color of grayish brown (10YR 5/2) or brown (10YR 5/3) and mottles of a higher chroma. It has some degradational silt coatings. The B2t horizon above the fragipan is 5 to 12 inches thick and is loam or silt loam. The base color of ped interiors has a hue of 10YR, a value of 4 or 5, and a chroma of 2 to 4.

The fragipan begins at a depth of 18 to 26 inches and is 26 to 40 inches thick. It is loam or silt loam. The base color of ped interiors has a hue of 10YR, a value of 4 or 5, and a chroma of 2 to 4. The mottles have a contrasting color. The ped coatings have a chroma of 1 or 2. The structure is prismatic or polygonal, and the peds are 2 to 4 inches in diameter.

The B3 horizon below the fragipan is as much as 50 percent rock fragments. Reaction is medium acid to strongly acid throughout the profile.

Gresham soils are similar to Titusville soils in texture, but they are wetter and have a grayer subsoil than those soils and they are mottled at a shallower depth. They are similar to Ravenna soils in color and texture but are acid to a greater depth. Gresham soils have a less gray subsoil than Frenchtown soils and are more acid. They are more pebbly and less silty than Fitchville soils, and they contain a fragipan.

Haney Series

The Haney series consists of nearly level to gently sloping moderately well drained, soils that formed in loamy to gravelly outwash deposits. They are on outwash plains in the northern part of the county.

A representative profile of this series, in a cultivated field, has a dark brown loam plow layer 10 inches thick. The subsoil, between depths of 10 and 16 inches, is yellowish brown loam; between depths of 16 and 29 inches, it is firm dark yellowish brown gravelly clay loam mottled with grayish brown; and between depths of 29 and 40 inches, it is yellowish brown gravelly sandy clay loam mottled with grayish brown. The substratum, between depths of 40 and 46 inches, is dark yellowish brown gravelly sandy loam and, between depths of 46 and 60 inches, it is dark yellowish brown gravelly loamy coarse sand.

Most areas of Haney soils are used for crops, mainly corn, soybeans, small grain, and hay.

Representative profile of Haney loam, 2 to 6 percent slopes, in a cultivated field, in the SW¼SW¼ sec. 1, R. 20 W., T. 22 N. (Plymouth Township):

Ap-0 to 10 inches, dark brown (10YR 4/3) loam; weak fine crumb structure; friable; slightly acid; abrupt smooth boundary.

B21t-10 to 16 inches, yellowish brown (10YR 5/4) loam, moderate medium subangular blocky structure; friable; patches of dark yellowish brown (10YR 4/4) clay films on ped faces; 10 percent fine gravel; slightly acid; clear smooth boundary.

B22t-16 to 29 inches, dark yellowish brown (10YR 4/4) gravelly clay loam; few fine distinct grayish brown (10YR 5/2) mottles; firm, sticky; gravel and sand grains coated and bridged with clay; 20 percent gravel; medium acid; clear smooth boundary.

B23t-29 to 40 inches, yellowish brown (10YR 5/4) gravelly sandy clay loam; few fine faint grayish brown (10YR 5/2) mottles; massive; friable; slightly sticky; some coarse fragments and sand grains coated and bridged with clay; 20 percent gravel; slightly acid; gradual smooth boundary.

C1-40 to 46 inches, dark yellowish brown (10YR 4/4) gravelly sandy loam; massive; very friable; 20 percent gravel; neutral; clear smooth boundary.

IIC2-46 to 60 inches, dark yellowish brown (10YR 4/4) gravelly loamy coarse sand; single grain; loose, 25 percent gravel; neutral.

In uncultivated areas, the A1 horizon is very dark grayish brown (10YR 3/2) and is 2 to 4 inches thick. An A2 horizon is present in some areas. It is brown (10YR 5/3) or pale brown (10YR 6/3) loam that is free of mottling.

A B1 horizon is present in some areas. It is typically yellowish brown and has pale brown degradational silt coatings. The B2t horizon has a total thickness of 20 to 32 inches. The texture of layers in this horizon is loam, gravelly loam, gravelly clay loam, and sandy clay loam. The gravel content ranges from almost none to 25 percent. The base color of the B2t horizon has a hue of 10YR, a value of 4 or 5, and a chroma of 3 or 4.

The C horizon is highly stratified. The texture of the individual strata is gravelly sandy loam, very gravelly loam, and loamy sand. The gravel content ranges from 10 to 30 percent.

Reaction in the A and B horizons is medium acid to neutral. The C horizon is neutral to moderately alkaline, and it is calcareous. Carbonates are at a depth of 40 to 72 inches.

Haney soils are similar to Belmore and Digby soils in texture. They are a little wetter than Belmore soils and are mottled at a shallower depth. They have better natural drainage than Digby soils and have dark yellowish brown clay films, rather than a grayish brown, on ped faces in the subsoil. Haney soils are less acid than Bogart soils, but they are otherwise similar. They are more gravelly and less silty than Glenford soils and are less clayey and more gravelly than Cardington soils.

Hanover Series

The Hanover series consists of gently sloping to steep, well drained soils. These soils formed in old glacial till that is low in lime. They have a dense fragipan in the subsoil that restricts the movement of water and the penetration of roots. They are in the southern part of the county.

A representative profile of this series, in a cultivate field, has a dark brown silt loam plow layer 7 inches thick. The subsoil has a total thickness of 69 inches. The top part consists of a 3-inch layer of yellowish brown silt loam underlain by a 12-inch layer of yellowish brown, firm loam. Below this is the fragipan that is 50 inches thick. It consists of very firm, dense, yellowish brown loam that breaks into large blocks, the interiors of which are very dense and not easily penetrated by roots or water. The fragipan is underlain by 4 inches of yellowish brown loam. Small pebbles and a few stones are in all parts of the profile, and stones are numerous below a depth of 4 feet in some areas.

The less strongly sloping Hanover soils are used for crops or for improved pasture. The steeper areas are in permanent pasture or trees. Most trees grow well on these soils.

Representative profile of Hanover silt loam, 2 to 6 percent slopes, in a cultivated field, in the NE¼NW¼ sec. 2, T. 19 N. R. 18 W. (Jefferson Township) (laboratory data sample RC-18):

Ap-0 to 7 inches, dark brown (10YR 4/3) silt loam; weak fine crumb structure; friable; medium acid; abrupt smooth boundary.

B1-7 to 10 inches, yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; 5 percent pebbles, mostly less than one-half inch in diameter; slightly acid; clear wavy boundary.

B2t-10 to 22 inches, yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; firm; medium acid; prism faces have patchy brown (10YR 5/3), yellowish brown (10YR 5/4) and dark yellowish brown (10YR 4/4) clay films; 2 percent very dark gray (10YR 3/1) manganese concretions; 5 percent coarse fragments, mostly less than 1 inch in diameter; slightly acid; clear smooth boundary.

Bx1-22 to 34 inches, yellowish brown (10YR 5/6) loam; few fine distinct strong brown (7.5YR 5/6 and 5/8) stains; weak coarse prismatic structure, massive within prisms; very firm, brittle; prisms have light yellowish brown (10YR 6/4) silt coatings and patchy grayish brown (10YR 5/2) clay films; 5 percent very dark gray (10YR 3/1) manganese concretions that are not distributed uniformly in depth; 5 percent coarse fragments less than 1 inch in diameter; medium acid; diffuse wavy boundary.

Bx2-34 to 48 inches, yellowish brown (10YR 5/6) loam; moderate very coarse prismatic structure; very firm, brittle; discontinuous grayish brown (10YR 5/2) clay films on ped faces; 5 percent very dark gray (10YR 3/1) manganese concretions that are not uniformly distributed; 5 percent coarse fragments, mostly less than 1 inch in diameter but a few sandstone fragments are 2 to 3 inches in diameter; very strongly acid; clear wavy boundary.

Bx3-48 to 60 inches; yellowish brown (10YR 5/4) loam; few medium faint yellowish brown (10YR 5/6) mottles and few fine distinct gray (10YR 5/1) mottles; weak very coarse prismatic structure that parts to weak thick platy structure; very firm, brittle; yellowish brown (10YR 5/4) and light gray (10YR 6/1) coatings on prism face; horizontal ped faces 10 percent covered with very dark gray (10YR 3/1) manganese concretions; 5 percent pebbles; very strongly acid; clear wavy boundary.

Bx4-60 to 72 inches, yellowish brown (10YR 5/4) loam; few coarse distinct yellowish brown (10YR 5/8) mottles; weak very coarse prismatic structure that parts to weak medium platy structure; very firm, brittle; ped faces mostly yellowish brown (10YR 5/4) with patches of grayish brown (10YR 5/2); 5 percent manganese concretions; 5 percent pebbles; very strongly acid; clear smooth boundary.

B3-72 to 76 inches, yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; firm; patchy brown (10YR 4/3) clay films on ped surfaces; 5 percent pebbles; 5 percent manganese concretions; very strongly acid.

The Ap horizon is dark grayish brown (10YR 4/2) to brown or dark brown (10YR 4/3). In uncultivated areas the A1 horizon is 1 to 4 inches thick and is very dark grayish brown (10YR 3/2). A brown (10YR 5/3) A2 horizon, as much as 7 inches thick, is present in some uncultivated areas.

The B1 horizon is as much as 6 inches thick and shows a varying amount of degradational silt coatings. The B2t horizon, which is above the fragipan, is 10 to 16 inches thick. Its color has a hue of 10YR or 7.5YR, a value of 4 or 5, and a chroma of 4 to 6. It has degradational silt coatings in some areas.

The fragipan begins at a depth of 20 to 28 inches and is 30 to 54 inches thick. It is loam or clay loam. The base color is yellowish brown or brown and has a hue of 10YR or 7.5YR. Yellowish brown (10YR 5/4 or 5/6) is the dominant color. Dark colored manganese stains and concretions are prominent and coat as much as 80 percent of the horizontal ped surfaces. In some areas the upper part of the fragipan is degraded and has an abundance of grainy silt coatings, and there is an absence of prismatic or polygonal structure.

The B3 horizon is similar to the fragipan in color and texture but lacks the firmness and brittleness of the fragipan. In some areas there is no B3 horizon.

Many pebbles and a few stones are in all parts of the profile. Partly weathered sandstone fragments are below a depth of 3 feet, and in some areas a high percentage of weathered sandstone is below a depth of 4 feet.

Hanover soils are similar to Titusville soils in texture but have better natural drainage and are deeper to mottling. They are deeper over bedrock than Loudonville soils, but in the upper part of the profile they are similar to those soils in texture. Hanover soils are more pebbly and less silty than Mentor soils, and they contain less rounded gravel than Chili soils. In addition, they have a fragipan, which Mentor and Chili soils do not have. Hanover soils are similar to Wooster soils but formed in older glacial till that is acid to a greater depth.

Holly Series

The Holly series consists of nearly level, poorly drained soils that formed in alluvial material deposited by flooding streams. These soils are in depressions, abandoned stream channels, and

other low areas on the flood plains of streams throughout the county.

A representative profile of this series, in a wooded area, has a dark gray silt loam surface layer 3 inches thick. The subsoil extends a depth of 32 inches. It is dark gray silt loam mottled with strong brown and dark grayish brown. The substratum, between depths of 32 and 40 inches, is dark grayish brown loam mottled with dark gray and gray. Between depths of 40 and 60 inches, it consists of dark gray silt loam and thin strata of fine sandy loam.

These soils are subject to flooding, and some areas remain under water for a considerable period after floods or heavy rains. Artificial drainage is needed if these soils are farmed, but many areas are difficult to drain because of their size and location. For this reason, few areas of Holly soils are cultivated. Most areas are in trees, brush, or permanent pasture.

Representative profile of Holly silt loam, in a wooded area east of OH-95, in the NW¼ sec. 2, T. 21 N., R. 17 W. (Worthington Township):

A1-0 to 3 inches, dark gray (10YR 4/1) silt loam; few coarse faint dark grayish brown (10YR 4/2) mottles and many coarse distinct strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; few dark concretions; neutral; gradual boundary.

Bg1-3 to 14 inches, dark gray (10YR 4/1) silt loam; few coarse faint dark grayish brown (10YR 4/2) mottles and many coarse distinct strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; neutral; gradual boundary.

Bg2-14 to 32 inches, dark gray (10YR 4/1) silt loam; common coarse faint dark grayish brown (10YR 4/2) mottles and many fine distinct strong brown (7.5YR 5/6) mottles; weak fine subangular blocky structure; friable; few dark concretions; neutral; gradual boundary.

C1g-32 to 40 inches, dark grayish brown (10YR 4/2) loam; common coarse faint dark gray (10YR 4/1) and gray (10YR 5/1) mottles; massive; friable; slightly stratified; neutral; gradual boundary.

C2g-40 to 60 inches, dark gray (5Y 4/1) silt loam; common fine prominent strong brown (7.5YR 5/8) mottles; massive; friable; several thin strata of fine sandy loam; neutral.

The A1 horizon has a texture of loam or silt loam and is 3 to 8 inches thick. Its color has a hue of 10YR, a value of 3 or 4, and a chroma of 1 or 2. The Ap horizon in cultivated areas has a similar range of color.

The B horizon has a hue of 10YR to 2.5Y, a value of 4 or 5, and a chroma of 0 to 2. The texture of the B and C1 horizons is silt loam, loam, silty clay loam, or fine sandy loam. The substratum, below a depth of 40 inches, varies even more in texture and contains sandy, gravelly, and stony strata. These coarser textured strata are most common in the valleys of the smaller, swifter streams. In some areas the profile has one or more thin, buried surface layers. Reaction generally is neutral throughout the profile, but it ranges to slightly acid.

Holly soils have poorer natural drainage than Shoals soils and are grayer below the surface layer. They do not have the thick, dark colored buried surface layer that Algiers soils have. Holly soils generally have a lighter colored surface layer than Sloan soils, but in some areas they have a thinner, dark colored surface layer. They have a less definite subsoil than Sebring soils and are subject to flooding.

Homewood Series

The Homewood series consists of deep, well drained and moderately well drained soils that have a thick, strongly expressed fragipan. These soils formed in medium textured and moderately fine textured Illinoian glacial till on till plains and moraines. They generally are on the tops and sides of hills and on the sides of stream valleys. In a few areas they are in valley plugs. Slope ranges from 2 to 25 percent.

Homewood soils are similar to Titusville and Wooster soils and commonly are adjacent to Chili, Loudonville, and Titusville soils. Chili soils have more sand and gravel in the substratum than the Homewood soils and do not have a fragipan. They are in valley plugs and on recessional moraines. Loudonville soils are moderately deep over bedrock. They are on hillsides. Titusville soils are moderately well drained and are on the more concave hilltops. Wooster soils have a fragipan that is thinner and more weakly expressed than that of the Homewood soils. Also, they formed in younger glacial till.

Typical pedon of Homewood silt loam, 2 to 6 percent slopes, about 3.5 miles north of Martinsburg, Knox County; in an area of Harrison Township about 1,060 feet west along Beckholt Road from the intersection of Beckholt and Grove Church Roads, then about 660 feet north, T. 6 N., R. 11 W:

Ap-0 to 10 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; about 5 percent gravel; slightly acid; abrupt smooth boundary.

BE-10 to 13 inches; yellowish brown (10YR 5/6) silt loam; weak fine subangular blocky structure; friable; dark brown (10YR 4/3) root channel fillings; few faint light yellowish brown (10YR 6/4) silt coatings on faces of peds; few pebbles; medium acid; clear wavy boundary.

Bt1-13 to 23 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; firm; common faint yellowish brown (10YR 5/4) clay films on faces of peds; few dark concretions; about 5 percent gravel; strongly acid; gradual wavy boundary.

Bt2-23 to 29 inches; yellowish brown (10YR 5/6) clay loam; common fine faint brownish yellow (10YR 6/8) and few medium faint brown (10YR 5/3) mottles; weak coarse prismatic structure parting to moderate medium subangular blocky; very firm; very slightly brittle; common distinct and few prominent dark yellowish brown (10YR 4/4) clay films on faces of peds; many coarse distinct rounded concretions (iron and manganese oxides); about 5 percent gravel; very strongly acid; clear wavy boundary.

Btx1-29 to 40 inches; yellowish brown (10YR 5/6) clay loam; common fine and medium distinct grayish brown (10YR 5/2) and few fine prominent yellowish red (5YR 5/8) mottles; moderate very coarse prismatic structure parting to moderate thick platy; very firm; brittle; many distinct brown (10YR 5/3) silt coatings on faces of prisms, with distinct zones of gray (10YR 5/1) and grayish brown (10YR 5/2); common faint and few distinct yellowish brown (10YR 5/4) clay films on faces of peds; common coarse prominent black (10YR 2/1) concretions (iron and manganese oxides), mainly on horizontal faces of peds; about 5 percent gravel; very strongly acid; diffuse wavy boundary.

Btx2-40 to 67 inches; yellowish brown (10YR 5/4) clay loam; common coarse distinct grayish brown (10YR 5/2) and gray (10YR 5/1) mottles; moderate very coarse prismatic structure parting to moderate thick platy; very firm; brittle; many prominent light brownish gray (10YR 6/2) silt coatings on faces of prisms, with zones of brown (10YR 5/3); many distinct clay films on vertical faces of peds and common faint clay films on horizontal faces; many fine and medium dark concretions and few yellowish red (5YR 5/8) stains (iron and manganese oxides), mainly on horizontal faces of peds; about 5 percent coarse fragments; very strongly acid; clear wavy boundary.

C-67 to 80 inches; yellowish brown (10YR 5/4) silt loam; massive; firm; common fine dark concretions (iron and manganese oxides); about 5 percent coarse fragments, mainly sandstone, shale, and some crystalline rocks; very strongly acid.

The solum ranges from 50 to 90 inches in thickness. In many pedons it is terminated by shattered or broken rock below a depth of 60 inches. The depth to the Btx horizon ranges from 20 to 36 inches. In unlimed areas the solum is strongly acid or very strongly acid. The content of coarse fragments is 0 to 10 percent in the Ap and Bt horizons and 2 to 25 percent in the Btx and C horizons. Most of the coarse fragments are small angular pebbles, but some are larger channers, especially below the fragipan.

Unless it is significantly eroded, the Ap horizon has hue of 10YR. value of 4, and chroma of 2 or 3. Some pedons have A and E horizons. The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. The Bt horizon has hue of 10YR or 7.5YR and value and chroma of 4 to 6. It is loam, silt loam, clay loam, or silty clay loam. The content of clay in this horizon is 24 to 32 percent. The Btx horizon ranges from 24 to 40 inches in thickness. It has hue of 10YR or 7.5YR and value and chroma of 4 or 5. It is loam, clay loam, or the gravelly analogs of these textures. The content of clay in this horizon is 24 to 30 percent.

Some pedons have a BC horizon, which has colors and textures similar to those of the Btx horizon but lacks the firmness and brittleness of that horizon. The C horizon is loam, silt loam, clay loam, or the gravelly analogs of these textures.

Jimtown Series

The Jimtown series consists of somewhat poorly drained soils that have moderate permeability. These soils formed in loamy, sandy, and gravelly glacial outwash. They are on glacial outwash plains and melt water channels. Slopes range from 0 to 6 percent.

Jimtown soils are members of a drainage sequence that includes the well drained Chili soils, the moderately well drained Bogart soils, and the very poorly drained Olmsted soils. Jimtown soils are on positions in the landscape similar to those of Kibbie and Wilmer Variant soils. They have more coarse fragments in the solum than Kibbie soils. They do not have a mollic epipedon, which Wilmer Variant soils have.

Typical pedon in an area of Jimtown loam, 0 to 2 percent slopes, in Holmes Township, Crawford County, about 2,000 feet west and 200 feet north of the southeast corner of sec. 3, T. 2 S., R. 16 E.:

Ap-0 to 9 inches; dark grayish brown (10YR 4/2) loam; moderate medium granular structure; friable; 5 percent pebbles; neutral; abrupt smooth boundary.

B1-9 to 13 inches; dark brown (10YR 4/3) loam; common medium distinct grayish brown (10YR 5/2) and many medium distinct yellowish brown (10YR 5/4 and 5/6) mottles; weak medium subangular blocky structure; friable; grayish brown (10YR 5/2) silt coatings on faces on peds; 5 percent pebbles; medium acid; gradual smooth boundary.

B21t-13 to 22 inches; dark brown (10YR 4/3) loam; many medium distinct grayish brown (10YR 5/2) and common medium distinct yellowish brown (10YR 5/4 and 5/6) mottles; weak coarse subangular blocky structure; firm; grayish brown (10YR 5/2) silt coatings on faces of peds; thin very patchy yellowish brown (10YR 5/4) clay films on vertical faces of peds; 5 percent pebbles; strongly acid; gradual smooth boundary.

B22t-22 to 28 inches; brown (10YR 5/3) sandy loam; common medium distinct gray (10YR 6/1), black (10YR 2/1), yellowish brown (10YR 5/6), and strong brown (7.5YR 5/6) mottles; weak coarse subangular blocky structure; friable; continuous gray (10YR 5/1) silt coatings on faces of peds; thin very patchy grayish brown (10YR 5/2) clay films on faces of peds and pebble surfaces; 10 percent pebbles; strongly acid; gradual smooth boundary.

B23t-28 to 42 inches; dark yellowish brown (10YR 4/4) sandy loam; common medium distinct grayish brown (10YR 5/2) and yellowish brown (10YR 5/6) mottles; weak coarse subangular blocky structure; friable; continuous gray (10YR 5/1) coatings on faces of peds; thin patchy grayish brown (10YR 5/2) clay films; 10 percent pebbles; strongly acid; gradual smooth boundary.

C1-42 to 60 inches; yellowish brown (10YR 5/4) stratified loam and sandy loam; common medium distinct gray (10YR 5/1) and common medium faint yellowish brown (10YR 5/6) mottles; weak coarse prismatic structure; friable; 10 percent pebbles; medium acid; gradual smooth boundary.

C2-60 to 72 inches; yellowish brown (10YR 5/4) gravelly sandy loam; common medium distinct dark grayish brown (10YR 4/2) and grayish brown (10YR 5/2) mottles; massive; friable; 15 percent pebbles; medium acid; clear smooth boundary.

C3-72 to 84 inches; 50 percent gray (10YR 5/1) and 50 percent black (10YR 2/1) gravelly sandy loam; massive; friable; 25 percent pebbles; slight effervescence; mildly alkaline.

Solum thickness ranges from 10 to 48 inches. Reaction is very strongly acid to slightly acid in the solum, unless the soil has been limed, and strongly acid to moderately alkaline in the

C horizon. Depth to free carbonates ranges from 16 to more than 60 inches.

The Ap horizon is dark grayish brown (10YR 4/2) or brown (10YR 4/1). In the B2 horizon, hue is 10YR. value is 4 or 5, and chroma is 2 to 4. Mottles that have chroma of 2 or less are present where matrix chroma is 3 or 4. Texture is loam, sandy loam, gravelly loam, gravelly clay loam, or gravelly sandy clay loam. Average clay content of the argillic horizon is 18 to 27 percent. The coarse fragment content is 5 to 25 percent. The C horizon is stratified gravelly sandy loam, gravelly loam, loamy sand, and gravelly sand. Thin layers of clean gravel are in this horizon in some pedons. The total coarse fragment content of the C horizon ranges from 10 to 40 percent.

Kibbie Series

The Kibbie series consists of deep, somewhat poorly drained soils that formed in stratified, medium textured lacustrine sediment on lake plains. Slope is 0 to 2 percent.

The Kibbie soils in this county have a greater number of gray mottles and gray coatings on the faces of peds than is definitive for the series. Also, their subsoil does not have enough clay to qualify as an argillic horizon. These differences, however, do not alter the use or management of the soils.

Kibbie soils commonly are adjacent to Colwood, Saylesville, and Tuscola soils. The very poorly drained Colwood soils are in the slightly lower positions on the landscape. The well drained Saylesville soils are on steep side slopes in dissected areas. The moderately well drained Tuscola soils are on slight rises and in gently sloping areas adjacent to drainageways.

Typical pedon of Kibbie loam, 0 to 2 percent slopes, about 3 miles northeast of Monroeville, in Ridgefield Township, Huron County; about 1,732 feet north and 576 feet west of the intersection of Township Roads 118 and 46; quadrangle 2, lot 10; T. 4 N., R. 23 W:

Ap-0 to 9 inches; very dark gray (10YR 3/1) loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; few fine roots; few coarse fragments; neutral; abrupt wavy boundary.

Bt1-9 to 15 inches; yellowish brown (10YR 5/4) loam; many medium distinct light brownish gray (10YR 6/2) and common medium distinct yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; friable; few fine roots; common distinct light brownish gray (10YR 6/2) clay films and dark grayish brown (10YR 4/2) organic coatings on faces of peds; dark gray (10YR 4/1) krotovinas; about 5 percent coarse fragments; neutral; clear wavy boundary.

8t2-15 to 22 inches; brown (10YR 5/3) loam; common medium distinct light brownish gray (10YR 6/2) and yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; friable; few fine roots; common distinct light brownish gray (10YR 6/2) clay films and many distinct light brownish gray (10YR 6/2) coatings on faces of peds; dark gray (10YR 4/1) krotovinas; about 7 percent coarse fragments; neutral; clear wavy boundary.

Bt3-22 to 33 inches; yellowish brown (10YR 5/4) loam; many medium distinct light brownish gray (10YR 6/2) and common medium distinct yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; friable; few very fine roots; common distinct light brownish gray (10YR 6/2) clay films and many distinct light brownish gray (10YR 6/2) coatings on faces of peds; dark gray (10YR 4/1) krotovinas; about 10 percent coarse fragments; slight effervescence; mildly alkaline; abrupt wavy boundary.

BC-33 to 44 inches; brown (10YR 5/3) loam; common medium faint grayish brown (10YR 5/2) and common medium distinct yellowish brown (10YR 5/6) mottles; weak coarse subangular blocky structure parting to weak medium platy; friable; common distinct grayish brown (10YR 5/2) coatings on faces of peds; thin strata of silty clay loam; few coarse fragments; slight effervescence; mildly alkaline; gradual wavy boundary.

C-44 to 60 inches; brown (10YR 5/3) silt loam; common coarse distinct yellowish brown (10YR 5/6) and common medium faint grayish brown (10YR 5/2) mottles; massive; friable; strong effervescence; moderately alkaline.

The thickness of the solum and the depth to free carbonates range from 24 to 48 inches. The Ap horizon has value of 2 or 3 and chroma of 1 or 2. It typically is loam but is fine sandy loam in some pedons. The B horizon has value of 4 or 5 and chroma of 3 to 6. It is loam, sandy clay loam, or silt loam. The C horizon has value of 5 or 6 and chroma of 2 to 4. It is dominantly silt loam but in some pedons has strata of silty clay loam, loam, or fine sandy loam.

Landes Series

The Landes series consists of nearly level, well drained, dark colored soils that formed in sandy loam and loamy sand alluvial deposits. These soils are on the flood plains of Clear Fork and Cedar Fork.

A representative profile of this series, in a cultivated field, has a very dark grayish brown fine sandy loam plow layer 13 inches thick. This layer is underlain by brown, friable fine sandy loam to a depth of 27 inches. Below this, to a depth of 60 inches or more, is yellowish brown fine sandy loam and loamy fine sand. There is some gravel in the layers below a depth of 40 inches.

Landes soils are well suited to crops and are commonly used for corn, soybeans, and small grain. There is, however, a continuing hazard of flooding.

Representative profile of Landes fine sandy loam, in a cultivated field, in the NW¼NE¼ sec. 15, T. 19 N., R. 18 W. (Jefferson Township):

Ap-0 to 13 inches, very dark grayish brown (10YR 3/2) (rubbed) fine sandy loam; weak, fine, crumb structure; friable; neutral; abrupt, smooth boundary.

C1-13 to 27 inches, brown (10YR 4/3) fine sandy loam; massive; friable; neutral; abrupt, smooth boundary.

IIC2-27 to 40 inches, yellowish brown (10YR 5/4) loamy fine sand; massive; loose; neutral; clear, smooth boundary.

IIC3-40 to 60 inches +, yellowish brown (10YR 5/4) and brown (10YR 5/3) stratified loamy sand and fine sandy loam; massive; very friable to loose; lenses of clean sand and fine gravel become more numerous with depth; neutral.

The Ap or A1 horizons are very dark grayish brown (10YR 3/2) or very dark brown (10YR 2/2) fine sandy loam. They extend to a depth of at least 10 inches.

The substratum, between depths of 13 and 40 inches, has a hue of 10YR or 7.5YR, a value of 4 to 6, and a chroma of 3 to 6. This part of the substratum is loamy sand or fine sandy loam that has thin strata of silt loam. It is as much as 5 percent coarse fragments. A thin, dark, buried surface layer is in some areas. The substratum below a depth of 40 inches is loamy sand or sandy loam, and it contains lenses of clean sand. The gravel content increases with depth and is as high as 30 percent at a depth of 60 inches. Reaction throughout the profile ranges from slightly acid to mildly alkaline, but it is predominantly neutral. The lower part of the C horizon is weakly calcareous in some areas.

Landes soils are darker colored and less acid than Lobdell soils, and they are sandier below the surface layer. They are darker colored, less acid, and sandier than Mentor soils.

Latham Series

The Latham series consists of gently sloping and sloping, moderately well drained soils that formed in material weathered from siltstone and shale. These soils are underlain by soft rock at a depth of 20 to 40 inches. They are on hilltops and hillsides in the east central and southeastern parts of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 7 inches thick. The subsoil begins at a depth of 7 inches and extends to a depth of 28 inches. Between depths of 7 and 10 inches, it is mottled yellowish brown and strong brown heavy silty clay loam; between depths of 10 and 14 inches, it is strong brown, very firm silty clay mottled with dark brown and gray; between depths of 14 and 24 inches, it is mottled brown, yellowish brown, and grayish brown, firm silty clay loam; and between depths of 24 and 28 inches, it is pale brown, firm silty clay loam mottled with yellowish brown and grayish brown. The substratum, between depths of 28 and 32 inches, is light yellowish brown silty clay loam mottled with grayish brown and yellowish red. Below a depth of 32 inches, it is gray shale or siltstone.

Latham soils are poorly suited to crops. They are very strongly acid; consequently they have a very high lime requirement. Tilth is poor in most cultivated areas. Most areas of these soils are in trees or pasture or are idle.

Representative profile of Latham silt loam, 6 to 12 percent slopes, in a cultivated field, in the NW¼SE¼ sec. 35, T. 21 N., R. 17 W. (Worthington Township):

Ap-0 to 7 inches, dark grayish brown (10YR 4/2) silt loam; moderate fine granular structure; friable; very strongly acid; abrupt smooth boundary.

B1-7 to 10 inches, yellowish brown (10YR 5/4) and strong brown (7.5YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; light yellowish brown (10YR 6/4) ped coatings; 3 percent coarse fragments; extremely acid; clear wavy boundary.

B21t-10 to 14 inches, strong brown (7.5YR 5/6) silty clay; common medium faint dark brown (7.5YR 4/4) mottles and common medium prominent gray (10YR 6/1) mottles; weak medium prismatic structure that parts to moderate medium subangular blocky structure; very firm; light yellowish brown (10YR 6/4) clay films on ped faces and ped interiors; few sandstone fragments; very strongly acid; clear smooth boundary.

B22t-14 to 24 inches, mottled brown (10YR 5/3) yellowish brown (10YR 5/4), and grayish brown (10YR 5/2) silty clay loam; moderate medium subangular blocky structure; firm; thin patchy brown (10YR 5/3) clay films on ped faces; few sandstone fragments; very strongly acid; clear irregular boundary.

B3-24 to 28 inches, pale brown (10YR 6/3) silty clay loam; many fine distinct yellowish brown (10YR 5/4) and grayish brown (10YR 5/2) mottles; weak medium subangular blocky structure; firm; few sandstone and shale fragments; very strongly acid; clear smooth boundary.

C1-28 to 32 inches, light yellowish brown (10YR 6/4) silty clay loam; many coarse distinct grayish brown (10YR 5/2) mottles and common fine prominent yellowish red (5YR 5/6) mottles; weak medium platy structure; firm; 10 percent fine sandstone and shale fragments; very strongly acid; abrupt wavy boundary.

C2-32 inches +, gray (10YR 5/1) shale or siltstone; common coarse prominent yellowish red (5YR 5/6) stains; paralithic.

Depth to shale or siltstone ranges from 20 to 40 inches. The solum is 20 to 36 inches thick. An A2 horizon is present in some areas. It is generally pale brown (10YR 6/3) silt loam or silty clay loam.

The B1 horizon is not present in all areas. The B2t horizon is 8 to 20 inches thick. It has a hue of 10YR or 7.5YR, a value of 5 or 6, and a chroma of 3 to 6. The B3 and C1 horizons have a hue of 10YR or 2.5Y, a value of 5 or 6, and a chroma of 3 or 4.

The underlying rock is soft enough to be dug through to a depth of at least 48 inches. Reaction in the solum is strongly acid to extremely acid.

Latham soils have a more clayey subsoil than Lordstown, Loudonville, or Berks soils. They are shallower to rock and have a more clayey subsoil than Hanover or Titusville soils.

Lenawee Series

The Lenawee series consists of poorly drained and very poorly drained soils. These soils formed in calcareous lacustrine sediment. They are on glacial lake plains. Slopes range from 0 to 2 percent.

Lenawee soils are on positions in the landscape similar to those of Bono, Lenawee Variant, Luray, and Sebring soils. They are commonly near Sloan soils. Lenawee soils do not have a mollic epipedon, which Bono, Luray, and Sloan soils have. They are less acid than Lenawee Variant soils. Lenawee soils have more clay in the subsoil than Luray and Sebring soils. They do not have an irregular decrease in organic matter as depth increases, which Sloan soils have.

Typical pedon in an area of Lenawee silty clay loam, in Vernon Township, Crawford County, about 200 feet west and 2,800 feet north of the southeast corner of sec. 22, T. 21 N., R. 20 W.:

Ap-0 to 9 inches; black (10YR 2/1) silty clay loam; moderate fine and medium granular structure; friable; many roots; slightly acid; abrupt smooth boundary.

B21g-9 to 12 inches; dark gray (N 4/0) silty clay; weak coarse prismatic structure parting to moderate medium angular blocky; firm; many roots; common fine distinct olive brown (2.6Y 4/4) streaks along root channels and very dark gray (10YR 3/1) organic coatings on vertical faces of peds; neutral; medium acid; clear smooth boundary.

B22g-12 to 18 inches; dark gray (N 4/0) silty clay loam; strong medium prismatic structure parting to moderate medium angular blocky; firm; common roots; many medium distinct dark yellowish brown (10YR 4/4) streaks along root channels and pores; very dark gray (10YR 3/1) organic coatings on vertical faces of peds; slightly acid; gradual wavy boundary.

B23g-18 to 30 inches; gray (N 6/0) silty clay loam; moderate medium prismatic structure; firm; common roots; very dark gray (10YR 3/1) organic coatings on vertical faces of peds; neutral; clear irregular boundary.

B3g-30 to 45 inches; variegated yellowish brown (10YR 5/4) and olive gray (5Y 5/2) silty clay loam; moderate medium prismatic structure; firm; common roots; common medium continuous dark grayish brown (2.5Y 4/2) coatings; gray (10YR 5/1) streaks and very dark gray (10YR 3/1) organic coatings on vertical faces of peds; mildly alkaline; clear irregular boundary.

Cg-45 to 60 inches; dark gray (5Y 4/1) silty clay loam; many medium distinct light olive brown (2.5Y 5/4) mottles; weak fine and medium platy structure; few silt and very fine sand laminations; firm; few roots; slight effervescence; mildly alkaline.

Solum thickness ranges from about 30 to 50 inches. Reaction is medium acid to neutral in the upper part of the solum and ranges to mildly alkaline in the lower part.

The Ap horizon is black (10YR 2/1) or very dark gray (10YR 3/1) but is dark grayish brown (10YR 4/2) in the overwashed areas. Texture is silty clay loam or silt loam.

The Bg horizon is silty clay loam or silty clay. Weighted average clay content in the control section is 35 to 45 percent. Hue is 10YR to 2.5Y or N; value is 4 to 6; and chroma is 1 or 2.

The C horizon is calcareous. It is laminated silt loam and silty clay loam and has thin layers of very fine sand and silt. Reaction is mildly alkaline.

Linwood Series

The Linwood series consists of nearly level, dark colored, very poorly drained soils that formed in muck underlain by loam or silt loam at a depth of 20 to 50 inches. These soils formed under a brush and marsh grass vegetation. They are in low areas, mostly in the northern part of the county.

A representative profile of this series has 24 inches of black muck overlying gray silt loam between depths of 24 and 40 inches and grayish brown loam between depths of 40 and 60 inches.

Linwood soils are very wet. The water table is at or near the surface for extended periods, and some areas are ponded. Artificial drainage is needed if these soils are cultivated. If the soils are drained, they are suited to a variety of field and vegetable crops. They are subject to soil blowing and fire damage if not protected.

Representative profile of Linwood muck, in a cultivated field, just west of the intersection of Fackler and Shatzer Roads, in the NE¼ sec. 26, T. 23 N., R. 19 W. (Cass Township):

Oap-0 to 6 inches, black (10YR 2/1) sapric material, no color change when rubbed; about 15 percent fiber, 5 percent when rubbed; moderate, very fine subangular blocky structure; friable; 10 percent mineral; neutral; abrupt smooth boundary.

Oa1-6 to 18 inches, black (10YR 2/1) sapric material; same color when rubbed; about 15 percent fiber, 5 percent when rubbed; moderate fine subangular blocky structure; friable; 5 percent mineral; neutral; diffuse wavy boundary.

Oa2-18 to 24 inches, black (10YR 2/1) sapric material; same color when rubbed; 20 percent fiber, 5 percent when rubbed; weak medium subangular blocky structure; friable; neutral; abrupt wavy boundary.

IIC1-24 to 40 inches, gray (5Y 5/1) silt loam; many medium prominent, strong brown (7.5YR 5/8) mottles; massive; friable; neutral; clear wavy boundary.

IIC2-40 to 60 inches, grayish brown (10YR 5/2) loam; many medium faint yellowish brown (10YR 5/4) mottles; massive; friable; 5 percent pebbles; mildly alkaline; weakly calcareous.

The organic material ranges from 20 to 50 inches in thickness. The organic horizons have a hue of 10YR, a value of 2, and a chroma less than 2. The value and chroma increase by not more than one unit when the material is rubbed. More than 75 percent of the organic deposit is sapric (highly decomposed) material. The fiber content of unrubbed material is less than 25 percent and decreases to less than 10 percent of rubbed material. The mineral horizons are a loam or silt loam. These horizons are highly stratified where the muck is of alluvial origin. Reaction in the organic part of the profile is slightly acid to neutral. In the mineral part, the reaction is neutral to moderately alkaline. In some areas the mineral part is calcareous.

Linwood soils differ from most other soils in the county in having a muck surface layer. They formed in thinner organic deposits than Carlisle soils and they do not have the mineral surface layer that Wallkill soils have.

Lobdell Series

The Lobdell series consists of nearly level, moderately well drained soils that formed in alluvial sediment deposited by flowing streams. These soils are on flood plains of streams in all parts of the county.

A representative profile of this series, in a wooded area, has a dark grayish brown silt loam surface layer 6 inches thick. The upper part of the subsoil, between depths of 6 and 20 inches, is yellowish brown loam. The lower part, between depths of 20 and 28 inches, is yellowish brown silt loam mottled with grayish brown. The substratum, between depths of 28 and 60 inches, consists of alternate layers of silt loam, loam, and fine sandy loam, which are yellowish brown, brown, or grayish brown.

These soils are subject to occasional flooding. They are generally on the highest part of the flood plain. Natural drainage is generally adequate for farming. These soils are used for crops. Corn, soybeans, small grain, and hay crops are commonly grown.

Representative profile of Lobdell silt loam, in a wooded area, in the NE¼SW¼ sec. 17, R. 19 W., T. 21 N. (Sharon Township):

A1-0 to 6 inches, dark grayish brown (10YR 4/2) silt loam; weak fine crumb structure; friable; neutral; clear wavy boundary.

B21-6 to 20 inches, yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; friable; neutral; clear wavy boundary.

B22-20 to 28 inches, yellowish brown (10YR 5/4) silt loam; common fine faint grayish brown (10YR 5/2) mottles; weak fine subangular blocky structure; friable; neutral; clear smooth boundary.

C1-28 to 42 inches, yellowish brown (10YR 5/4) silt loam; common fine faint grayish brown (10R 5/2) mottles and common fine distinct strong brown (7.5YR 5/6) mottles; massive; friable; neutral; gradual boundary.

C2-42 to 60 inches, brown (10YR 5/3) stratified silt loam, loam, and fine sandy loam; common medium faint grayish brown (10YR 5/2) and yellowish brown (10YR 5/4 and 5/6) mottles; massive; friable; few strata of loamy sand; neutral.

The A1 horizon is very dark grayish brown (10YR 3/2) in some areas. In cultivated areas the Ap horizon is dark grayish brown (10YR 4/2).

The B horizon has a hue of 10YR, a value of 4 or 5, and a chroma of 3 or 4. The texture is loam or silt loam. A few pebbles are generally present.

The C horizon is stratified. It is generally silt loam, loam, and sandy loam. Strata of sand or gravel are below a depth of 3 feet in many areas. Reaction in the upper 40 inches is slightly acid to neutral.

Lobdell soils have a brighter color, fewer mottles, and better natural drainage than Shoals soils. They have a less well defined subsoil than Glenford soils and are subject flooding. They have a lighter colored surface layer and a less sandy subsoil than Landes soils.

Lordstown Series

The Lordstown series consists of gently sloping to very steep, well drained soils that are underlain by sandstone or siltstone bedrock at a depth of 20 to 40 inches. These soils formed in soil material weathered from rock. They are on ridgetops and hillsides, mainly in the southern part of the county.

A representative profile of this series, in a wooded area, has a very dark gray silt loam surface layer 2 inches thick. The subsoil is 22 inches thick. It is yellowish brown silt loam and contains some sandstone fragments. The substratum begins at a depth of 24 inches and extends to a depth of 36 inches. It is a mixture of rock and yellowish brown loam, the amount of rock increasing with depth. The substratum is underlain by solid bedrock.

The less strongly sloping areas of these soils are suited to crops and improved pasture. The steeper areas are used for trees or permanent pasture.

Representative profile of Lordstown silt loam, 6 to 12 percent slopes, in a wooded area in the SE¼ sec. T. 21 N., R. 17 W. (Worthington Township) (laboratory data sample RC-13):

A1-0 to 2 inches, very dark gray (10YR 3/1) silt loam; moderate very fine granular structure; very friable; resists wetting; 5 percent channers and pebbles; extremely acid; clear wavy boundary.

B21-2 to 12 inches, yellowish brown (10YR 5/6) silt loam; weak thick platy structure that parts to weak fine subangular blocky structure; friable; many pale brown (10YR 6/3) silt coatings; 5 percent pebbles and channers; very strongly acid; diffuse wavy boundary.

B22-12 to 24 inches, yellowish brown (10YR 5/4) silt loam; weak thick platy structure that parts to moderate fine subangular blocky structure; friable; patchy pale brown (10YR 6/3) silt coatings; few strong brown (7.5YR 5/8) iron stains; 15 percent channers; very strongly acid; clear wavy boundary.

C-24 to 36 inches, yellowish brown (10YR 5/6) channery loam; massive; friable; 35 percent channers in the upper part and 70 percent in the lower part; channers 1 inch thick and 1 to 4 inches in diameter; some gravel size fragments also present; very strongly acid; clear irregular boundary.

R-36 inches +, fine-grained, fractured sandstone and siltstone bedrock, 1 to 2 inches thick; base color, strong brown (7.5YR 5/8); very dark grayish brown (10YR 3/2) stains on some cleavage faces.

The solum ranges from 20 to 30 inches in thickness, and depth to rock ranges from 20 to 40 inches. In cultivated areas the Ap horizon is dark grayish brown (10YR 4/2). The content of coarse fragments is less than 15 percent in the A horizon and in the upper part of the B2 horizon and 10 to 35 percent in the lower part of the B2 horizon. The B2 horizon has a hue of 10YR or 7.5YR, a value of 4 to 5, and a chroma of 4 to 6. Silt coatings are present in some areas, but not in others. The texture of the B2 horizon is silt loam or loam. In some shallow areas, there is no C horizon. Reaction is generally medium

acid to very strongly acid throughout the profile, except where the effects of liming are evident.

Lordstown soils have a less stony subsoil than Berks soils. In Lordstown soils the subsoil is less than 35 percent sandstone fragments, and in Berks soils it is 50 percent or more. Lordstown soils are similar to Loudonville soils in color and depth to rock, but the upper part of Lordstown soils formed mainly in material weathered from fine grained sandstone; the upper part of Loudonville soils formed in glacial till. The areas of Lordstown and Loudonville soils that have slopes steeper than 18 percent are mapped together. The subsoil of Lordstown soils contains more silt and clay and less coarse sand than that of Schaffenaker soils.

Loudonville Series

The Loudonville series consists of gently sloping to moderately steep, well drained soils that formed in glacial till underlain by sandstone bedrock at a depth of 20 to 40 inches. These soils are mostly in the southern part of the county.

A representative profile of this series, in a wooded area, has a very dark grayish brown silt loam surface layer 3 inches thick. It is underlain by 4 inches of brown silt loam. The upper part of the subsoil, between depths of 7 and 14 inches, is yellowish brown, firm silt loam. The lower part, between depths of 14 and 26 inches, is yellowish brown, firm clay loam. The substratum, between depths of 26 and 31 inches, is yellowish brown fine sandy loam. Between depths of 31 and 38 inches, the substratum is a mixture of sandstone fragments and yellowish brown loamy fine sand. Sandstone bedrock is at a depth of 38 inches.

The less strongly sloping Loudonville soils are used for crops or improved pasture. The steeper soils are used for permanent pasture or trees.

Representative profile of Loudonville silt loam, 2 to 6 percent slopes, in a wooded area, in the NE¼NE¼ sec. 5, T. 20 N., R. 19 W. (Troy Township) (laboratory data sample RC-12):

A1-0 to 3 inches, very dark grayish brown (10YR 3/2) silt loam; moderate medium granular structure; friable; many roots; medium acid; clear irregular boundary.

A2-3 to 7 inches, brown (10YR 4/3) silt loam; weak thick platy structure that parts to weak fine subangular blocky structure; friable; many roots; very strongly acid; clear irregular boundary.

B21t-7 to 14 inches, yellowish brown (10YR 5/4) silt loam; weak coarse subangular blocky structure that parts to moderate fine subangular blocky structure; friable; thin patchy brown (10YR 5/3) clay films on horizontal and vertical ped faces; few pebbles; strongly acid; diffuse irregular boundary.

B22t-14 to 26 inches, yellowish brown (10YR 5/4) clay loam; moderate fine subangular blocky structure; firm; moderately thick patchy yellowish brown (10YR 5/4) clay films on vertical and horizontal ped faces; few pebbles; strongly acid; abrupt wavy boundary.

IIC1-26 to 31 inches, yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; 20 percent subangular sandstone fragments, 1 to 4 inches in diameter and 1 to 2 inches in thickness, easily crushed; few larger rock fragments; very strongly acid; clear wavy boundary.

IIC2-31 to 38 inches, 60 percent sandstone fragments, 4 to 12 inches in diameter and 1 to 3 inches in thickness; 40 percent yellowish brown (10YR 5/8) loamy fine sand; single grain; loose; very strongly acid; clear irregular boundary.

R-38 inches +, brownish yellow (10YR 6/6) sandstone bedrock.

In cultivated areas the Ap horizon is dark grayish brown (10YR 4/2). The A2 horizon is very thin or is absent in some cultivated areas.

The B2t horizon has a total thickness of 10 to 30 inches. It has a hue of 7.5YR or 10YR, a value of 4 or 5, and a chroma of 4 to 6. In some areas the mottles have a chroma of 2 or less in the lower part of the B2t horizon. Clay films are patchy to continuous on ped faces.

Reaction in the entire profile is medium acid to very strongly acid where not influenced by liming. Depth to rock ranges from 20 to 40 inches. The till extends to the solid rock in some areas, but in most areas there is a IIC horizon of weathered rock material. The texture of this horizon is loam, sandy loam, or loamy sand, depending on the grain size in the underlying rock. In most areas roots can penetrate the cracks in the upper few inches of rock.

Loudonville soils are similar to Lordstown soils in color, natural drainage, and depth to rock, but the upper part of Lordstown soils formed in weathered sandstone. Loudonville and Lordstown soils that have slopes steeper than 18 percent are mapped together in undifferentiated units. Loudonville soils contain less sandstone fragments in their subsoil than Berks soils, and their subsoil is less sandy than that of Schaffenaker soils. Loudonville soils are similar to Wooster and Hanover soils in color and texture, but they are underlain by sandstone at a depth of 20 to 40 inches.

Luray Series

The Luray series consists of nearly level, very poorly drained, dark colored soils that formed in lacustrine sediment high in content of silt. They formed under lowland hardwood trees and swamp grass vegetation. These soils are in all parts of the county but are most extensive in the northwestern part, where they occur in areas that were shallow lakes during the postglacial era.

A representative profile of this series, in a cultivated field, has a very dark grayish brown silty clay loam plow layer 11 inches thick. Beginning at a depth of 11 inches, the subsoil extends to a depth of 42 inches. Between depths of 11 and 17 inches, it is dark grayish brown silty clay loam mottled with yellowish brown and brown; between depths of 17 and 30 inches, it is grayish brown silty clay loam mottled with yellowish brown and yellowish red; and between depths of 30 and 42 inches, it is mottled grayish brown and yellowish brown, stratified silty clay loam and silt loam. The substratum, between depths of 42 and 60 inches, is yellowish brown silt loam mottled with gray. The

upper 4 feet of the profile is essentially free of stones and pebbles.

Most drained areas of these soils are used for crops. Undrained areas are in trees or permanent pasture.

Representative profile of Luray silty clay loam, in a cultivated field, in the SE¼NE¼ sec. 25, T. 20 N., R. 20 W. (Sandusky Township):

Ap-0 to 11 inches, very dark grayish brown (10YR 3/2) silty clay loam; moderate fine granular structure; firm; very dark gray (10YR 3/1) organic coatings; slightly acid; abrupt smooth boundary.

B21tg-11 to 17 inches, dark grayish brown (10YR 4/2) silty clay loam; many coarse distinct brown (10YR 5/3) and prominent yellowish brown (10YR 5/6) mottles; moderate fine, subangular blocky structure; firm; thick dark gray (10YR 4/1), organic clay coatings on peds; medium acid; gradual boundary.

B22tg-17 to 30 inches, grayish brown (10YR 5/2) silty clay loam; many coarse distinct yellowish brown (10YR 5/6) mottles and common medium prominent yellowish red (5YR 5/6) mottles; moderate medium angular blocky structure; firm; thin patchy gray (10YR 5/1) clay films on ped faces; streaks of dark gray (10YR 4/1) organic staining on clay films; medium acid; gradual boundary.

B3g-30 to 42 inches, mottled, grayish brown (10YR 5/2) and yellowish brown (10YR 5/4 and 5/6), stratified silty clay loam and silt loam; weak coarse subangular blocky structure; firm; few vertical faces that have gray (10YR 5/1) coatings; medium acid; clear smooth boundary.

C-42 to 60 inches; yellowish brown (10YR 5/4) silt loam; many coarse distinct gray (10YR 5/1) mottles and few medium distinct strong brown (7.5YR 5/8) mottles; massive; friable; contains thin strata of loam and sandy loam; neutral.

Colors of black (10YR 2/1), very dark gray (10YR 3/1), and very dark grayish brown (10YR 3/2) extend to a depth of 10 to 16 inches. These colors are in the A1 or Ap horizon, and in some areas extend into a B1 horizon or the upper few inches of the B2t horizon. The A1 or Ap horizon has a texture of silty clay loam or silt loam. In some areas an A12 horizon is below the Ap horizon. This A12 horizon is generally the most clayey layer in the profile and has a texture of silty clay loam or silty clay.

The B2tg horizon has a total thickness of 18 to 27 inches. It has a hue of 10YR to 5Y, a value of 4 or 5, and a chroma of 1 or 2, and the mottles are of higher chroma. The texture is silt loam or silty clay loam. The clay films on peds in the B2t horizon have a value of 3 to 5 and a chroma of 0 to 1 where the color is not obscured by organic stains.

The B3 and C horizons are stratified. Silty clay loam and silt loam are the dominant textures. Thin strata of loam, fine sandy loam, or sandy loam are common. The color ranges from gray to yellowish brown and differs in adjacent strata. Most strata are mottled. Reaction in the solum is medium acid or slightly acid and, in the C horizon it is slightly acid to moderately alkaline. Depth to carbonates ranges from 48 inches to more than 60 inches.

Luray soils resemble Pewamo soils in color, but Luray soils formed in silty, water-laid material that is almost free of pebbles, and Pewamo soils formed in glacial till that is less silty and that contains more pebbles. Luray soils have a darker surface layer than Sebring and Fitchville soils and a grayer subsoil than Fitchville soils. Luray soils have more distinct subsoil layers than Sloan soils.

Lykens Series

The Lykens series consists of moderately well drained soils. These soils formed in glacial lake sediment and the underlying glacial till. They are on water-modified till plains. Slopes range from 2 to 6 percent.

Lykens soils are members of a drainage sequence that includes the somewhat poorly drained Tiro soils. Lykens soils are on positions in the landscape similar to those of Cardington and Glynwood soils. They are more silty in the upper part of the solum than Cardington and Glynwood soils.

Typical pedon in an area of Lykens silt loam, 2 to 6 percent slopes, in Whetstone Township, Crawford County, about 400 feet east and 900 feet south of the northwest comer of sec. 16, T.3 S., R. 17 E.:

Ap-0 to 8 inches; dark grayish brown (10YR 4/2) silt loam; weak medium granular structure; friable; many roots; neutral; abrupt smooth boundary.

Bl-8 to 13 inches; yellowish brown (10YR 5/4) silt loam; moderate fine and medium subangular blocky structure; friable; many roots; many fine pores; thin patchy brown (10YR 5/3) clay films and thin patchy silt coatings on faces of peds; common dark grayish brown (10YR 4/2) fillings in root channels; few fine dark concretions; strongly acid; clear smooth boundary.

B21t-13 to 17 inches; yellowish brown (10YR 5/4) heavy silt loam; strong fine and medium subangular blocky structure; friable; many roots; thin patchy brown (10YR 5/3) clay films on faces of peds; very strongly acid; clear smooth boundary.

B22t-17 to 22 inches; yellowish brown (10YR 5/4) light clay loam; many medium distinct yellowish brown (10YR 5/6) and grayish brown (10YR 5/2) mottles; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common fine roots; medium continuous brown (10YR 5/3) clay films on faces of prisms; thin patchy brown (10YR 5/3) clay films on horizontal faces of peds; very strongly acid; clear wavy boundary.

IIB23t-22 to 29 inches; brown (7.5YR 4/4) light clay loam; many coarse distinct strong brown (7.5YR 5/6) mottles in thin sand lenses; moderate medium prismatic structure; firm; common roots; thin patchy light brownish gray (10YR 6/2) clay films on faces of prisms; strongly acid in upper part grading to medium acid in lower part; clear wavy boundary.

IIIB3t-29 to 39 inches; dark yellowish brown (10YR 4/4) silty clay loam; many medium distinct yellowish brown (10YR 5/6) and gray (10YR 5/1) mottles; moderate coarse prismatic structure; firm; few fine roots; thin patchy dark grayish brown (10YR 4/2) clay films on faces of prisms; 4 percent coarse fragments; neutral; clear wavy boundary.

IIIC-39 to 75 inches; dark yellowish brown (10YR 4/4) light clay loam; many medium yellowish brown (10YR 5/6) and gray (10YR 5/1) mottles; massive; very firm; common fine black shale fragments; 4 percent coarse fragments; slight effervescence; moderately alkaline.

Solum thickness ranges from 24 to 50 inches. The depth to carbonates ranges from 28 to 50 inches. The thickness of

the overlying silty mantle ranges from 20 to 36 inches. The mantle is underlain by weakly stratified loamy material 2 to 15 inches thick, and below this is material derived from till. Reaction ranges from neutral to strongly acid in the upper part of the B horizon, and strongly acid to mildly alkaline in the lower part of the B horizon. Coarse fragment content is less than 2 percent in the silty layers in the upper part of the solum, 0 to 25 percent in the loamy part of the solum, 3 to 10 percent in the lower part of the solum and in the C horizon.

The Ap horizon is dark brown (10YR 4/3) or dark grayish brown (10YR 4/2). The Al horizon is 1 to 4 inches thick and is very dark grayish brown (10YR 3/2) to black (10YR 2/1). The A2 horizon, where present, is 2 to 8 inches thick below an Al horizon and 0 to 4 inches thick below an Ap horizon. The A2 horizon is brown (10YR 5/3) or pale brown (10YR 6/3).

In the B2 and IIB2 horizons, hue is 10YR or 7.5YR, value is 4 or 5, and chroma is 3 to 6. The B2 horizon is silt loam, silty clay loam, or clay loam. The IIB2 or IIB3 horizon is clay loam, silty clay loam, or loam.

In the IIIC horizon, hue is 10YR or 2.5Y, value is 4 or 5, and chroma is 2 to 4. Texture is clay loam, silty clay loam, loam, and silt loam.

Mentor Series

The Mentor series consists of gently sloping to moderately steep, well drained soils that formed in lacustrine sediment high in content of silt. These soils are in all parts of the county but are more extensive along the sides of major valleys in the southern part.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 10 inches thick. The upper part of the subsoil, between depths of 18 and 24 inches, is dark yellowish brown silt loam. Between depths of 24 and 36 inches, the subsoil is yellowish brown silt loam. The lower part, between depths of 36 and 43 inches, is dark yellowish brown silt loam that contains lenses of very fine sandy loam. The substratum, between depths of 43 and 50 inches, is yellowish brown very fine sandy loam and, between depths of 50 and 60 inches, is yellowish brown gravelly sandy loam. The profile is essentially free of pebbles and stones in the upper 4 feet.

Mentor soils are well suited to crops, but controlling erosion is a major management need. The areas of these soils are used about equally for crops, pasture, and trees.

Representative profile of Mentor silt loam, 2 to 6 percent slopes, in a cultivated field, in the SW¼NE¼ sec. 6, T. 21 N., R. 17 W. (Worthington Township):

Ap-0 to 10 inches, dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; medium acid; abrupt smooth boundary.

B1-10 to 14 inches, dark yellowish brown (10YR 4/4) silt loam; weak fine and medium subangular blocky structure; friable; strongly acid; gradual boundary.

B21t-14 to 24 inches, dark yellowish brown (10YR 4/4) silt loam; moderate fine and medium subangular blocky structure; friable; few manganese concretions; patchy thin dark brown (7.5YR 4/4) clay films on peds; very strongly acid; gradual boundary.

B22t-24 to 30 inches, yellowish brown (10YR 5/4) silt loam; moderate medium and fine subangular blocky structure; friable; thin patchy dark brown (7.5YR 4/4) clay films on peds; very strongly acid; gradual boundary.

B23t-30 to 36 inches, yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; thin patchy dark brown (7.5YR 4/4) clay films on peds; very strongly acid; clear wavy boundary.

B3-36 to 43 inches, dark yellowish brown (10YR 4/4) silt loam and lenses of very fine sandy loam; weak coarse subangular blocky structure; friable; strongly acid; clear smooth boundary.

IIC1-43 to 50 inches, yellowish brown (10YR 5/4) very fine sandy loam; massive; very friable; strongly acid; abrupt wavy boundary.

IIIC2-50 to 60 inches; yellowish brown (10YR 5/4) gravelly sandy loam; massive; very friable; 20 percent angular gravel; medium acid.

In uncultivated areas the A1 horizon is very dark grayish brown (10YR 3/2) and is 2 to 4 inches thick. An A2 horizon is present in most uncultivated areas. It is brown (10YR 5/3) or pale brown (10YR 6/3) silt loam and is free of mottling. A thin remnant of an A2 horizon is below the Ap horizon in some cultivated areas.

The B1 horizon is yellowish brown (10YR 5/4 or 5/6) or dark yellowish brown (10YR 4/4). It is generally silt loam but ranges to silty clay loam. It is unmottled but contains degradational silt coatings in some areas. The B2t horizon is 20 to 30 inches thick. It has a hue of 10YR or 7.5YR, a value of 4 or 5, and a chroma of 4 to 6. The texture ranges from silt loam to silty clay loam.

The C horizon is dominantly silt loam that has strata of very fine sandy loam, sandy loam, gravelly sandy loam, and loam in places. Individual strata vary slightly in color; yellowish brown and brown predominate. A gravelly layer is at a depth of 50 inches or more in some areas.

Reaction is medium acid to very strongly acid in the B1 horizon and in the upper part of the B2t horizon and strongly acid to slightly acid in the B3 and C horizons. Carbonates are below a depth of 54 inches in some areas.

Mentor soils are similar to Glenford soils in texture, but they are deeper to mottling and have better natural drainage. They contain more silt and less coarse sand and gravel than Chili and Belmore soils. Mentor soils have a less pebbly, more silty subsoil than Wooster, Rittman, and Hanover soils, and they do not have a fragipan. Depth to gravel is greater in Mentor soils than in Wheeling soils. Mentor and Wheeling soils are similar in the upper part of their profile, and areas of Mentor and Wheeling soils that have slopes of more than 12 percent are mapped together as undifferentiated units.

Olmsted Series

The Olmsted series consists of very poorly drained soils that have moderate permeability. These soils formed in loamy and sandy outwash and alluvium that contain some gravel They are on terraces, outwash plains, and deltas and on some morainic uplands. Slopes are 0 to 2 percent. Olmsted soils are members of a drainage sequence that includes the well drained Chili soils, the moderately well drained Bogart soils, and the somewhat poorly drained Jimtown soils. Olmsted soils are on positions in the landscape similar to

those of Colwood soils. They have more gravel in the solum than Colwood soils.

Typical pedon in an area of Olmsted silty clay loam, in Polk Township, Crawford County, about 1,200 feet north of Monnett-New Winchester Road and 1,700 feet west of Iberia Road, SW¼NW¼ sec. 3, T. 19 N., R. 21 W.:

Ap-0 to 7 inches; very dark grayish brown (10YR 3/2) silty clay loam; weak coarse granular structure; friable; slightly acid; abrupt smooth boundary.

A12-7 to 10 inches; very dark grayish brown (10YR 3/2) silty clay loam; weak medium subangular blocky structure; friable; slightly acid; clear smooth boundary.

IIB1g-10 to 17 inches; dark gray (10YR 4/1) clay loam; many medium distinct yellowish brown (10YR 5/4) mottles; weak medium subangular blocky structure; firm; continuous grayish brown (2.5Y 5/2) coatings on faces of peds; 5 percent pebbles; neutral; clear wavy boundary.

IIB2tg-17 to 26 inches; light brownish gray (2.5Y 6/2) loam; weak medium subangular blocky structure; friable; thin patchy clay films bridging sand grains; 10 percent gravel; neutral; clear wavy boundary.

IIIB31g-26 to 32 inches; dark grayish brown (10YR 4/2) silt loam; many coarse distinct strong brown (7.5YR 5/6) and dark gray (N 4/0) mottles; weak coarse prismatic structure; friable; neutral; clear smooth boundary.

IIIB32-32 to 40 inches; yellowish brown (10YR 5/4) silt loam; many coarse distinct strong brown (7.5YR 5/6) and dark gray (N 4/0) mottles; weak coarse prismatic structure; friable; 10 percent gravel; neutral; clear smooth boundary.

IVC1g-40 to 54 inches; very dark gray (N 3/0) gravelly loamy sand; single grained; loose; 25 percent gravel; mildly alkaline; clear smooth boundary.

IVC2g-54 to 60 inches; dark gray (N 4/0) sand; single grained; loose; 10 percent pebbles; slight effervescence; mildly alkaline.

Solum thickness ranges from 30 to 50 inches. Coarse fragment content is generally less than 10 percent in the upper part of the solum. In the lower part and in the underlying material, it is 10 to 50 percent. Reaction ranges from medium acid to neutral in the A and B horizons and neutral or mildly alkaline in the C horizon.

In the Ap and A12 horizons, hue is 10YR, value is 2 or 3, and chroma is 1 or 2. In the B1 and B2 horizons, hue is 10YR to 5Y or N, value is 4 to 6, and chroma is 0 to 2. The B3 horizon has colors similar to those of the B2 horizon but can have chroma of 3 to 6. Texture in the B horizon is loam, clay loam, sandy loam, silt loam, and their gravelly analogs.

The C horizon is sand, loamy sand, sandy loam, loam, clay loam, or their gravelly analogs.

Orrville, Moderately Shallow Variant

This moderately shallow variant of the Orrville series consists of nearly level, somewhat poorly drained soils that are underlain by rock at a depth of 20 to 40 inches. These soils formed in alluvial sediment deposited in valleys, mostly in the northern part of the county.

A representative profile of this series, in a pasture, has a dark grayish brown loam surface layer 5 inches thick. The subsoil, between depths of 5 and 14 inches, is friable, brown loam mottled with grayish brown. Between depths of 14 and 21 inches, the subsoil is grayish brown very gravelly loam that is at least 50 percent rock fragments. The substratum, about 17 inches thick, is grayish brown very gravelly loam mottled with yellowish brown. Bedrock is at a depth of 38 inches.

The areas of these soils are not well suited to crops. Most areas are in pasture.

Representative profile of Orrville loam, moderately shallow variant, in a pasture in the NE¼NE¼ sec. 29 T. 23 N., R. 18 W. (Blooming Grove Township):

A1-0 to 5 inches, dark grayish brown (10YR 4/2) loam; moderate medium granular structure; friable; dark brown (10YR 3/3) organic coatings; medium acid; clear smooth boundary.

B1-5 to 14 inches, brown (10YR 5/3) loam; common medium faint grayish brown (10YR 5/2) mottles; weak fine subangular blocky structure; friable; 15 percent rock fragments; medium acid; clear smooth boundary.

B2-14 to 21 inches, grayish brown (2.5Y 5/2) very gravelly loam; weak very fine subangular blocky structure; friable; 50 to 60 percent rock fragments about 1 inch in size; slightly acid; clear irregular boundary.

C-21 to 38 inches, grayish brown (2.5Y 5/2) very gravelly loam; few yellowish brown (10YR 5/6) mottles; massive; friable; 50 to 60 percent fine grained sandstone rock fragments; medium acid; abrupt wavy boundary.

IIR-38 inches +, olive gray (5Y 5/2), bedded hard shale and fine grained sandstone; most beds about 1 inch thick; yellowish brown (10YR 5/6) stains on horizontal cleavage faces.

Depth to rock ranges from 20 to 40 inches. The Ap horizon, in cultivated areas, is dark grayish brown (10YR 4/2). In some uncultivated areas, the A1 horizon is very dark grayish brown (10YR 3/2) and is less than 6 inches thick. The A1 or Ap horizon is loam or silt loam in texture and is as much as 15 percent coarse fragments.

The B horizon has a hue of 10YR or 2.5Y, a value of 4 or 5, and a chroma of 1 to 3. A chroma of 2 is dominant in most subhorizons. The B horizon is gravelly or very gravelly loam that is 15 to 60 percent coarse fragments. These fragments are of gravel size, but most are angular rather than rounded.

The C horizon is loam, sandy loam, or silt loam, that is 50 to 60 percent gravelly or channery coarse fragments. Reaction is medium acid to neutral throughout the profile. The underlying rock is shale, siltstone, or fine grained sandstone.

The moderately shallow Orrville variants differ from the Shoals soils and the coarse subsoil Shoals variants in having rock within a depth of 40 inches. These soils are wetter than Loudonville soils.

Pewamo Series

The Pewamo series consists of dark colored, nearly level soils that are very poorly drained. These soils formed in glacial till that was originally limy. They are on broad flats, in closed depressions, and along minor natural

drainageways, mainly in the northern part of the county.

A representative profile of this series, in a pasture, has a very dark gray silty clay loam surface layer 11 inches thick. The subsoil, between depths of 11 and 14 inches, is very dark gray silty clay loam; between depths of 14 and 26 inches, it is dark gray silty clay loam mottled with yellowish brown; and between depths of 26 and 52 inches, it is gray silty clay loam mottled with yellowish brown. The substratum, between depths of 52 and 64 inches, is gray silty clay loam mottled with yellowish brown; and between depths of 64 and 78 inches, it is yellowish brown clay loam mottled with gray and brown.

These soils are well suited to crops if they are drained. Most of the larger areas are drained and used for corn, soybeans, and small grain. Undrained areas are in permanent pasture or trees.

Representative profile of Pewamo silty clay loam, in a pasture, in the NE¼SW¼ sec. 20, T. 25 N., R 17 W. (Butler Township):

A1-0 to 11 inches, very dark gray (10YR 3/1) silty clay loam; strong medium granular structure; friable; 1 percent pebbles; neutral; clear irregular boundary.

B21tg-11 to 14 inches, very dark gray (10YR 3/1) silty clay loam strong fine and medium angular blocky structure; firm; few clay films on ped faces; 2 percent pebbles; neutral; clear smooth boundary.

B22tg-14 to 26 inches, dark gray (10YR 4/1) silty clay loam; common fine distinct yellowish brown (10YR 5/6) mottles in ped interiors; strong medium angular blocky structure; firm; thin patchy clay films on ped faces; 2 percent pebbles; neutral; clear wavy boundary.

B23tg-26 to 41 inches, gray (10YR 5/1) silty clay; many medium prominent yellowish brown (10YR 5/6) mottles; weak coarse angular blocky structure that parts to moderate medium subangular blocky structure; very firm; dark gray (5Y 4/1) clay films on ped faces; 4 percent pebbles; mildly alkaline; clear wavy boundary.

B3g-41 to 52 inches, gray (10YR 5/1) silty clay loam; many coarse prominent yellowish brown (10YR 5/6) mottles and common medium prominent yellowish brown (10YR 5/4) mottles; yellowish brown (10YR 5/6) dominant in some irregularly shaped parts of the horizon; weak coarse subangular blocky structure; firm; 6 percent pebbles; mildly alkaline; clear smooth boundary.

C1g-52 to 64 inches, gray (10YR 5/1) silty clay loam; many coarse distinct yellowish brown (10YR 5/6) mottles and common medium prominent dark brown (7.5YR 4/4) mottles; weak medium angular blocky structure; firm; 8 percent pebbles; mildly alkaline, calcareous; gradual boundary.

C2g-64 to 78 inches, yellowish brown (10YR 5/4) clay loam; many coarse distinct gray (10YR 5/1) mottles and common medium faint brown (10YR 5/3) and yellowish brown (10YR 5/6) mottles; massive; firm; 8 percent pebbles; mildly alkaline; calcareous.

The surface layer ranges from 10 to 14 inches in thickness and is silty clay loam or silt loam in texture. It is black (10YR 2/1), very dark gray (10YR 3/1), or very dark grayish brown (10YR 3/2). Distinct or prominent mottles are in the lower part of the A1 horizon in some areas.

In some areas a B1g horizon, 2 to 6 inches thick, is below the A horizon. The B2tg horizon has a total thickness of 18 to 36 inches and a texture of clay loam, silty clay loam, and silty clay. The ped surfaces have a hue of 10YR, 2.5Y or 5Y, a value of 3 to 5, and a chroma of 0 to 2.

The C horizon is clay loam and silty clay loam in texture. A part of the C horizon is leached of carbonates in some areas.

The B2tg horizon is medium acid to neutral in reaction and grades to mildly alkaline at the base of the horizon. The C horizon is mildly alkaline. This horizon is not always calcareous in the upper part. Depth to carbonates is 36 to 54 inches.

Pewamo soils are similar to Bennington and Condit soils in texture, but they have a thicker, darker colored surface layer. Also, they are more poorly drained than Bennington soils and they have a grayer subsoil. Pewamo soils are more pebbly and less silty in and below the subsoil than Luray soils, although they are similar to those soils in color.

Ravenna Series

The Ravenna series consists of nearly level to gently sloping, somewhat poorly drained soils. These soils have a fragipan in the subsoil that restricts the movement of water and the growth of roots. They formed in glacial till that is low in content of lime. They are in the southwestern and central parts of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 8 inches thick. This is underlain by a 2-inch subsurface layer of brown silt loam mottled with yellowish brown. The upper part of the subsoil, between depths of 10 and 23 inches, is yellowish brown silt loam mottled with grayish brown. Below this is a fragipan, which extends to a depth of 50 inches. It is very firm, yellowish brown loam mottled with grayish brown. Through the fragipan are vertical streaks of gray and dark gray clay that intersect to form blocks. The interiors of these blocks are very dense and are not easily penetrated by roots or water. The lower layer of the subsoil, between depths of 50 and 56 inches, is friable, yellowish brown loam glacial till. The substratum, between depths of 56 and 60 inches, is also yellowish brown loam glacial till but lacks structure. Small pebbles and a few stones are in all parts of the profile.

Most areas of Ravenna soils are too small to be farmed separately and are used along with surrounding soils, mostly for crops or permanent pasture.

Representative profile of Ravenna silt loam, 0 to 2 percent slopes, in a cultivated field, in the SE¼SE¼ sec. 1, T. 20 N., R. 19 W. (Troy Township):

Ap-0 to 8 inches, dark grayish brown (10YR 4/2) silt loam; weak medium crumb structure; friable; medium acid; abrupt smooth boundary.
A2-8 to 10 inches, brown (10YR 5/3) silt loam; common medium distinct yellowish brown (10YR 5/6) mottles; weak thin platy structure; friable; strongly acid; clear wavy boundary.
B1-10 to 16 inches, yellowish brown (10YR 5/4) silt loam; many coarse faint grayish brown (10YR 5/2) mottles; weak medium subangular blocky structure; friable; strongly acid; clear wavy boundary.
B2t-16 to 23 inches, yellowish brown (10YR 5/4) silt loam; common coarse faint yellowish brown (10YR 5/6) and grayish brown (10YR 5/2) mottles; moderate medium subangular blocky structure; firm; continuous gray (10YR 5/1) clay films on ped faces; strongly acid; clear wavy boundary.
Bx1-23 to 40 inches, yellowish brown (10YR 5/4) loam; many coarse faint grayish brown (10YR 5/2) mottles; weak very coarse prismatic structure that parts to weak medium subangular blocky structure; very firm, brittle; thick continuous gray (10YR 5/1) and dark gray (10YR 4/1) coatings and clay films on prism faces; common fine distinct dark grayish brown (10YR 3/2) manganese concretions; strongly acid; gradual boundary.
Bx2-40 to 50 inches, yellowish brown (10YR 5/4) loam; many coarse faint yellowish brown (10YR 5/6) and grayish brown (10YR 5/2) mottles; weak coarse prismatic structure that parts to weak fine subangular blocky structure; very firm, slightly brittle; dark gray (10YR 4/1) clay films on ped faces; few very dark grayish brown (10YR 3/2) manganese concretions; strongly acid; clear wavy boundary.
B3-50 to 56 inches yellowish brown (10YR 5/4) loam; many coarse faint yellowish brown (10YR 5/6) and grayish brown (10YR 5/2) mottles; weak fine subangular blocky structure; friable; a few dark gray (10YR 4/1) coatings on vertical faces; medium acid; gradual boundary.
C-56 to 60 inches; yellowish brown (10YR 5/4) loam; many coarse faint grayish brown (10YR 5/2) mottles; massive; friable; slightly acid.

The A horizon has a total thickness of 7 to 12 inches and is generally silt loam in texture. In unplowed areas a very dark gray (10YR 3/1) A1 horizon is 2 to 4 inches thick. The A2 horizon is absent in some cultivated areas and is as much as 6 inches thick in some uncultivated areas. It has a hue of 10YR, a value of 5 or 6, and a chroma of 2 to 4, and it is mottled with color of a higher chroma.

The B1 horizon is 3 to 8 inches thick. The B2t horizon above the fragipan is 5 to 10 inches thick. It is loam or silt loam. Silt coatings are on the ped faces in some areas. The ped interiors have a hue of 10YR or 2.5Y, a value of 4 or 5, and a chroma of 3 or 4, and mottles of a lower chroma.

The fragipan begins at a depth of 18 to 24 inches and is 24 to 36 inches thick. The prisms in this layer have gray or grayish brown coatings that consist mostly of clay, but some silt is in the upper part of the fragipan. The color of ped interiors is a mixture of yellowish brown, grayish brown and light olive brown in a hue of 10YR or 2.5Y and a dominant chroma of 3 or 4. The texture of the fragipan is loam or silt loam.

Reaction in and above the fragipan is medium acid to very strongly acid. Reaction below the fragipan becomes less acid with depth and is slightly acid to neutral at a depth of 60 inches. The underlying till is loam. The content of coarse fragments is generally 2 to 5 percent in all horizons.

Ravenna soils are similar to Canfield soils in texture, but they are more poorly drained than those soils and generally occupy lower positions on the landscape. They have a browner subsoil and better natural drainage than Frenchtown soils. Ravenna soils are similar to Wadsworth soils in color but are less clayey in the subsoil. Ravenna soils are more pebbly than Fitchville soils and have a firmer, denser subsoil.

Rittman Series

The Rittman series consists of gently sloping to moderately steep, moderately well drained soils. These soils have a very dense fragipan in the subsoil that restricts the downward movement of water. Rittman soils formed in glacial till that is low in content of lime. They are in an area that extends across the central part of the county and includes the Ontario and Lincoln Heights communities.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 7 inches thick. The subsoil is yellowish brown silt loam between depths of 7 and 13 inches, and brown, firm, silty clay loam mottled with yellowish brown and gray between depths of 13 and 18 inches. The plow layer and the upper part of the subsoil are very strongly acid. Between depths of 18 and 42 inches is the fragipan, which is very firm, dark brown silty clay loam mottled with brown and grayish brown. Through it are vertical streaks of gray clay that intersect to form blocks 5 to 10 inches across. The interiors of these blocks are very dense and are not easily penetrated by roots or water. The fragipan is very strongly acid, grading to medium acid with depth. The subsoil below the fragipan is brown, firm clay loam glacial till to a depth of 50 inches. It becomes less acid with depth and is calcareous in the lower part. The substratum, between depths of 50 and 60 inches, is brown clay loam mottled with yellowish brown and grayish brown. There are small pebbles and a few stones throughout the profile.

In general, the suitability of these soils for crops decreases as slope and the degree of erosion increase. Most areas are used for crops, but a large acreage is used for residential development and for other nonfarm uses.

Representative profile of Rittman silt loam, 2 to 6 percent slopes, in a cultivated field, in the NE¼SE¼ sec. 36, T. 20 N., R. 20 W. (Sandusky Township):

Ap-0 to 7 inches, dark grayish brown (10YR 4/2) silt loam; moderate medium granular structure; friable; very strongly acid; abrupt smooth boundary.
B1-7 to 13 inches, yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; thin continuous brown (10YR 5/3) silt coatings; very strongly acid; clear wavy boundary.
B2t-13 to 18 inches, brown (7.5YR 4/4) silty clay loam; common fine distinct yellowish brown (10YR 5/6) mottles and common medium distinct gray (10YR 5/1)

mottles; moderate medium prismatic structure that parts to moderate medium and coarse subangular blocky structure; firm; thin brown (10YR 4/3) clay films on blocks; few fine pebbles; very strongly acid; clear wavy boundary.

Bx-18 to 42 inches, dark brown (7.5YR 4/4) silty clay loam; many medium faint brown (10YR 4/3) mottles and common fine distinct grayish brown (10YR 5/2) mottles; prisms, 5 to 10 inches across, break to weak thick platy structure and weak coarse angular blocky structure; very firm, brittle; continuous thick gray (5Y 5/1) clay films on prism faces; few fine pebbles; very strongly acid, becoming medium acid with depth; clear wavy boundary.

B3-42 to 50 inches, brown (10YR 4/3) clay loam; common fine distinct grayish brown (10YR 5/2) mottles; weak coarse subangular blocky structure; firm; 5 percent pebbles; neutral; clear wavy boundary.

C-50 to 60 inches, brown (10YR 4/3) clay loam; common medium distinct grayish brown (10YR 5/2) and yellowish brown (10YR 5/6) mottles; massive; firm 5 percent pebbles; mildly alkaline; calcareous.

In unplowed areas the A1 horizon, 1 to 3 inches thick, is very dark grayish brown (10YR 3/2) silt loam. Below this is an A2 horizon of yellowish brown (10YR 5/4) silt loam that is 2 to 5 inches thick. This horizon is absent in most cultivated areas.

In the B1 and B2t horizons of most profiles, the silty coatings indicate degradation. The B2t horizon above the fragipan is generally 4 to 12 inches thick, but it is thinner in eroded areas. It is clay loam or silty clay loam in texture. It has a hue of 7.5YR or 10YR, a value of 4 or 5, and a chroma of 4 to 6.

Depth to the fragipan ranges from 12 to 24 inches, the shallower depth being in severely eroded areas. The thickness of the fragipan ranges from 14 w 30 inches. The texture is silt loam, loam, clay loam, or silty clay loam. The base color has a hue of 7.5YR, 10YR, or 2.5Y, a value of 4 or 5, and a chroma of 3 or 4. Dark colored manganese concretions are present in many areas. The prism faces are coated with clay films that range from dark brown (10YR 4/3) to dark gray (N 4/0). Reaction is strongly acid or very strongly acid above the fragipan, medium acid to very strongly acid in the upper part of the fragipan, and medium acid or slightly acid in the lower part of the fragipan. Depth to the C horizon, which consists of calcareous glacial till, ranges from 42 to 60 inches.

Rittman soils are similar to Wadsworth soils in texture, but they have better natural drainage and are slightly deeper to mottling. They resemble Canfield soils but are higher in content of clay, especially in the upper part of the subsoil. Rittman soils are more acid than Cardington soils, and they have a denser and less clayey subsoil.

Schaffenaker Series

The Schaffenaker series consists of gently sloping to very steep, well drained, soils that are underlain by sandstone bedrock at a depth of 20 to 40 inches. These soils formed in sand weathered from coarse grained sandstone. They are most common in the southern and central parts of the county.

A representative profile of this series, in a wooded area, has a very dark gray loamy sand surface layer 4 inches thick. This layer is underlain by pale brown sand and brown loamy sand about 6 inches thick. The subsoil is yellowish brown sand between depths of 10 to 20 inches and light yellowish brown sand and rock fragments between depths of 20 and 28 inches. Solid rock is at a depth of 28 inches or more.

Most areas of these soils are in trees. In general, these soils are poorly suited to crops and to pasture.

Representative profile of Schaffenaker loamy sand, 18 to 40 percent slopes, in a wooded area, in the NW¼SW¼ sec. 34, T. 23 N., R. 17 W. (Mifflin Township) (laboratory data sample RC-14):

A1-0 to 4 inches, very dark gray (10YR 3/1) loamy sand; very weak fine crumb structure; loose; about 25 percent of sand grains are clean and uncoated; many fine roots; 2 percent coarse fragments; extremely acid; clear wavy boundary.

A2&B1-4 to 10 inches, A2 material (60 percent): pale brown (10YR 6/3) sand; very weak fine crumb structure; loose; many fine roots; resists wetting, very strongly acid; abrupt very irregular boundary, material mixed with that from the B1 horizon. B1 material (40 percent): brown (7.5YR 4/4) loamy sand; very weak fine crumb structure; loose; many fine roots; easily wetted; very strongly acid; abrupt irregular boundary, material from A2 horizon mixed with that from the underlying B2 horizon.

B2-10 to 20 inches, yellowish brown (10YR 5/4) sand; single grain; loose; few fine roots; 10 percent rounded, weathered sandstone fragments; very strongly acid; clear irregular boundary.

B3-20 to 28 inches, light yellowish brown (10YR 6/4) sand; common medium distinct yellowish brown (10YR 5/6) mottles; single grain; loose; 15 to 20 percent sandstone fragments 1 to 4 inches in diameter; 5 to 10 percent highly weathered, easily crushed sandstone fragments; very strongly acid; abrupt irregular boundary.

R-28 inches +, massive Black Hand Sandstone in which there are conglomeritic zones; dominantly medium to coarse sand, but largely quartzitic pebbles imbedded in conglomerate parts.

Depth to bedrock is 20 to 40 inches. Texture above the bedrock is sand or loamy sand, medium and coarse sand predominating. In cultivated areas the Ap horizon is dark brown (10YR 4/3) to yellowish brown (10YR 5/4). The A1 horizon is 2 to 6 inches thick. It is very dark gray (10YR 3/1) or dark gray (10YR 4/1). The A2 and B1 horizons are generally intermingled, but they exist one above the other in some areas. The A2 horizon is brown (10YR 5/3) or pale brown (10YR 6/3) and generally resists wetting. The B1 horizon has a hue of 7.5YR or 10YR, a value of 4 or 5, and a chroma of 4 or 6. The B2 horizon has a hue of 10YR or 7.5YR, a value of 4 to 6, and a chroma of 3 to 6. The B3 horizon is 5 to 30 percent sandstone fragments, some of which are easily crushed. Reaction throughout the profile is strongly acid to extremely acid.

Schaffenaker soils are sandier than Lordstown, Berks, and Loudonville soils, although these soils also are underlain by rock at a depth of 20 to 40 inches. Schaffenaker soils differ from Chili and Conotton soils in being underlain by rock at a depth of 20 to 40 inches and in having a sandier, less clayey subsoil.

Sebring Series

The Sebring series consists of nearly level, poorly drained soils that formed in lacustrine sediment. These soils formed under a lowland hardwood forest. They are on flats and in closed depressions in all parts of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 8 inches thick. Beginning at a depth of 8 inches, the subsoil extends to a depth of 37 inches. It is dark grayish brown silty clay loam between depths of 8 and 12 inches; firm, gray silty clay loam mottled with yellowish brown between depths of 12 and 32 inches; and yellowish brown silty clay loam modified with grayish brown between depths of 32 and 37 inches. Between depths of 37 and 60 inches are alternate thin layers of silty clay loam and silt loam and sandy loam. These layers are grayish brown and yellowish brown and are neutral in reaction. The profile is almost free of pebbles in the upper 4 feet, but pebbly or gravelly layers are below this depth in some areas.

Most areas of Sebring soils are small and are used along with surrounding soils. The larger areas are in permanent pasture or trees.

Representative profile of Sebring silt loam, in a cultivated field, in the SE¼NW¼ sec. 25, T. 21 N., R. 20 W. (Sharon Township):

Ap-0 to 8 inches, dark grayish brown (10YR 4/2) silt loam; moderate medium granular structure; friable; slightly acid; abrupt smooth boundary.

B1g-8 to 12 inches, dark grayish brown (10YR 4/2) silty clay loam; many medium prominent yellowish brown (10YR 5/6) mottles; weak fine subangular blocky structure; firm; medium acid; clear smooth boundary.

B21tg-12 to 20 inches, gray (10YR 5/1) silty clay loam; many medium distinct yellowish brown (10YR 5/4) mottles; moderate medium subangular blocky structure; firm; dark gray (10YR 4/1) clay films on ped faces; medium acid; clear smooth boundary.

B22tg-20 to 32 inches, gray (10YR 5/1) silty clay loam; many coarse distinct yellowish brown (10YR 5/4 and 5/6) mottles; moderate fine subangular blocky structure; firm; patchy dark gray (10YR 4/1) clay films on ped faces; slightly acid; clear smooth boundary.

B3g-32 to 37 inches, yellowish brown (10YR 5/6) silty clay loam; many medium and coarse distinct grayish brown (10YR 5/2) mottles; weak fine subangular blocky structure; firm; neutral; clear smooth boundary.

Cg-37 to 60 inches, mottled, yellowish brown (10YR 5/4 and 5/6) and grayish brown (10YR 5/2), stratified silty clay loam, silt loam, and sandy loam; massive; friable; neutral.

In uncultivated areas the A1 horizon is 1 to 3 inches thick. It is black (10YR 2/1), very dark gray (10YR 3/1), or very dark grayish brown (10YR 3/2). An A2 horizon, 1 to 6 inches thick, is in uncultivated areas and in some cultivated areas. It has a hue of 10YR, a value of 4 to 6, and a chroma of 1 or 2, and it has distinct or prominent mottles of higher chroma.

The B1g horizon is 3 to 7 inches thick. It has a hue of 10YR or 2.5Y, a value of 4 or 5, and a chroma of 2 or less. Degradational silt coatings are in some areas. The B2tg horizon begins at a depth of 10 to 18 inches and is 18 to 28 inches thick. It is silt loam or silty clay loam in texture. The ped interiors have a hue of 10YR or 2.5Y, a value of 4 to 6, and a chroma of 0 to 2. A few degradational silt coatings are in the upper B2tg horizon in some areas. The B3 horizon is not present in some areas.

The C horizon is stratified. Silt loam and silty clay loam are the dominant textures, but strata of sandy loam, loam, or clay loam are common. The color of the C horizon is a mixture of grayish brown, yellowish brown, brown, and gray. Adjacent strata differ slightly in color.

Reaction is medium acid to strongly acid in the B1 horizon and in the upper part of the B2tg horizon; medium acid to slightly acid in the lower part of the B2tg and B3 horizon; and neutral to moderately alkaline in the C horizon. Depth to carbonates is 40 inches to more than 60 inches. The profile is free of coarse fragments in the upper 4 feet.

Sebring soils are similar to Fitchville and Luray soils in texture, but they have a grayer subsoil and poorer natural drainage than Fitchville soils, and they have a lighter colored surface layer than Luray soils. Sebring soils are similar to Condit and Frenchtown soils in color, but they have a siltier, less pebbly subsoil.

Shoals Series

The Shoals series consists of nearly level, somewhat poorly drained soils that formed in alluvium deposited by flowing streams in relatively recent times. These soils formed under a lowland hardwood forest. They are on flood plains of streams throughout the county.

A representative profile of this series, in woodland, has a very dark grayish brown silt loam surface layer 4 inches thick. Between depths of 4 and 16 inches, the subsoil is dark grayish brown silt loam mottled with yellowish brown and dark brown, and between depths of 16 to 26 inches, it is grayish brown silt loam mottled with yellowish brown and dark grayish brown. The substratum, between depths of 26 and 42 inches, is brown, stratified loam and silt loam mottled with dark gray. Between depths of 42 and 60 inches, it is yellowish brown silt loam mottled with dark gray and containing thin strata of sandy loam and loam. Generally, no carbonates are in the upper 30 inches, but they are below this depth in a few areas. Shoals soils are extremely variable, and the profile can be expected to differ greatly from the representative profile.

The use of Shoals soils depends on whether they are protected from flooding and the extent to which they are drained. Some areas in the wide valleys are well suited to crops. Most areas in the narrow valleys are used for permanent pasture or trees because of their inaccessibility and the difficulty of providing adequate drainage.

Representative profile of Shoals silt loam, in a wooded area, along Rocky Fork Creek, in the NE¼ NW¼ sec. 9, T. 22 N., R. 17 W. (Monroe Township):

A1-0 to 4 inches, very dark grayish brown (10YR 3/2) silt loam; moderate fine granular structure; friable; neutral; clear wavy boundary.
B1-4 to 16 inches, dark grayish brown (10YR 4/2) silt loam; common coarse faint dark brown (10YR 4/3) mottles and few fine faint yellowish brown (10YR 5/4) mottles; weak coarse subangular blocky structure; friable; very dark grayish brown (10YR 3/2) organic coatings on ped faces; neutral; clear smooth boundary.
B2-16 to 26 inches, grayish brown (10YR 5/2) silt loam; common medium faint dark grayish brown (10YR 4/2) mottles and common medium distinct yellowish brown (10YR 5/6) mottles; weak coarse subangular blocky structure; friable; neutral; clear smooth boundary.
C1-26 to 42 inches, brown (10YR 5/3), stratified loam and silt loam; many coarse distinct dark gray (10YR 5/1) mottles; massive; friable; neutral; clear smooth boundary.
C2-42 to 60 inches, yellowish brown (10YR 5/4) silt loam and thin strata of sandy loam and loam; many coarse distinct dark gray (10YR 4/1) mottles; massive; friable; mildly alkaline.

The Ap horizon is dark grayish brown (10YR 4/2). The A1 horizon, in uncultivated areas, is very dark grayish brown (10YR 3/2) or very dark brown (10YR 2/2). This horizon is less than 6 inches thick.

The B horizon has a hue of 10YR to 2.5Y, a value of 4 or 5, and a chroma of 2 or 3. The dominant texture is silt loam, loam, or silty clay loam. Strata below a depth of 40 inches have a wider textural range that includes sandy, gravelly, or stony textures. The coarser textured strata are most common in the valleys of the small, swift streams; the finer textured strata are common in the large valleys. The profile is slightly acid to neutral in the upper 30 inches and neutral to moderately alkaline below a depth of 30 inches.

Shoals soils have a browner, less gray subsoil and better natural drainage than Holly soils. They have a grayer subsoil, are mottled at a shallower depth, and have poorer natural drainage than Lobdell soils. They are less gravelly than the Shoals coarse subsoil variants. They have a lighter colored surface layer than Sloan soils. Shoals soils differ from Fitchville soils in having a less well defined subsoil and in being subject to flooding.

Shoals, Coarse Subsoil Variant

The Shoals, coarse subsoil variant, consists of nearly level, somewhat poorly drained soils that formed in sandy and gravelly sediment deposited by swiftly flowing streams in relatively recent times. They formed under a lowland hardwood forest. These soils are limy in the surface layer. They are in the valleys of swiftly flowing streams in all parts of the county.

A representative profile of this series, in a pasture, has a dark brown loam surface layer 5 inches thick. The subsoil is 5 inches thick and consists of grayish brown loam mottled with dark yellowish brown. The substratum is dark grayish brown very gravelly sandy loam between depths of 10 and 18 inches and grayish brown very gravelly or gravelly sand between depths of 18 and 60 inches. The sand is loose and limy and varies greatly in content of gravel within short distances.

The suitability of these soils for crops depends upon the extent to which they are drained and whether they are protected from flooding. Some small areas are cultivated, but a large acreage is in trees or permanent pasture.

Representative profile of Shoals loam, coarse subsoil variant, in a pasture, in the SE¼NE¼ sec. 26, T. 22 N., R. 17 W. (Weller Township):

A1-0 to 5 inches, dark brown (10YR 3/3) (10YR 4/3, rubbed) light loam; moderate medium granular structure; friable; 5 percent pebbles less than one half-inch in diameter; mildly alkaline; weakly calcareous; clear irregular boundary.
B2-5 to 10 inches, dark grayish brown (2.5Y 4/2) light loam; 30 percent dark yellowish brown (10YR 3/4) mottles; weak fine subangular blocky structure; friable; 5 percent stones, a few larger than 1 inch; mildly alkaline; weakly calcareous; abrupt irregular boundary.
IIC1-10 to 18 inches, dark grayish brown (10YR 4/2) very gravelly sandy loam; massive; loose; 60 percent skeletal, mixed fine and medium sandstone fragments and igneous pebbles; mildly alkaline; weakly calcareous; clear wavy boundary.
IIC2-18 to 32 inches, grayish brown (2.5Y 5/2) very gravelly sand; massive; loose; 50 percent skeletal material, 80 percent of which is less than one-half inch in size; mildly alkaline, moderately calcareous; gradual boundary.
IIC3-32 to 40 inches, grayish brown (2.5Y 5/2) very gravelly sand; common yellowish brown (10YR 5/4) to dark yellowish brown (10YR 4/4) mottles; massive; loose; 50 percent skeletal material, 80 percent of which is less than one-half inch in size; mildly alkaline; moderately calcareous; gradual boundary.
IIC4-40 to 60 inches, grayish brown (2.5Y 5/2) gravelly sand; few coarse distinct yellowish brown (10YR 5/4) mottles; single grain; loose; 40 percent gravel; moderately alkaline, moderately calcareous.

In cultivated areas the Ap horizon is dark grayish brown (10YR 4/2) loam or silt loam. The B horizon is 4 to 10 inches thick. It has a hue of 10YR or 2.5Y, a value of 4 or 5, and a chroma of 2. The texture of the B horizon is sandy loam, loam, or light silt loam.

The C horizon is sand or loamy sand and 40 to 70 percent coarse fragments. In most areas thin layers of sandy loam or loam are in this horizon. The C subhorizons vary greatly in color. They also vary in texture but sand or loamy sand is dominant. The soil is calcareous throughout the 10 to 20 inch depth. The A and B horizons that are not calcareous are neutral or mildly alkaline in reaction.

Sleeth Series

The Sleeth series consists of deep, somewhat poorly drained soils on outwash plains and terraces. These soils formed in outwash sediments. The slope is 0 to 3 percent.

Sleeth soils are commonly adjacent to Chili, Gallman, Millgrove, and Ockley soils. The well drained Chili, Gallman, and Ockley soils do not have low-chroma mottles in the upper part of the subsoil and are in slightly higher landscape positions than those of the Sleeth soils. The very poorly drained Millgrove soils are dominantly gray below the surface layer and are in depressions and along drainageways.

Typical pedon of Sleeth silt loam, loamy substratum, 0 to 3 percent slopes, about 0.3 mile southeast of Climax, in Canaan Township, Morrow County; 825 feet south and 990 feet west of the northeast corner of sec. 10, T. 5 S., R. 17 E:

Ap-0 to 10 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; very friable; common fine and medium roots; common fine and medium vesicular and tubular pores; few coarse fragments; strongly acid; abrupt smooth boundary.

Bt-10 to 18 inches; brown (10YR 5/3) silt loam; common medium distinct yellowish brown (10YR 5/6) and few fine faint light brownish gray (10YR 6/2) mottles; moderate medium subangular blocky structure; friable; common fine and medium roots; common fine and medium tubular and vesicular pores; few faint grayish brown (10YR 5/2) clay films on faces of peds; few distinct light gray (10YR 7/2) silt coatings on faces of peds; few coarse fragments; strongly acid; gradual smooth boundary.

2Btg1-18 to 25 inches; grayish brown (10YR 5/2) loam; common medium distinct yellowish brown (10YR 5/6) and few fine distinct yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; firm; common fine and few medium roots; few fine tubular and common fine vesicular pores; few faint brown (10YR 5/3) clay films on faces of peds; few distinct light gray (10YR 7/2) silt coatings on faces of peds; few coarse fragments; strongly acid; clear smooth boundary.

2Btg2-25 to 40 inches; grayish brown (10YR 5/2) loam; common medium distinct yellowish brown (10YR 5/6) and few fine distinct gray (10YR 6/1) mottles; weak coarse subangular blocky structure; firm; common fine roots; few fine tubular and common fine vesicular pores; few faint brown (10YR 5/3) clay films on faces of peds; common distinct light brownish gray (10YR 6/2) sand grain coating on faces of peds; about 5 percent gravel; medium acid; clear smooth boundary.

2Btg3-40 to 46 inches; grayish brown (10YR 5/2) loam; common medium distinct yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; few fine roots; few fine tubular and common fine vesicular pores; few faint brown (10YR 5/3) clay films on faces of peds; about 10 percent gravel; slightly acid; clear smooth boundary.

2Btg4-46 to 60 inches; brown (10YR 4/3) clay loam; many medium prominent strong brown (7.5YR 5/) mottles; weak coarse and medium subangular blocky structure; friable; few fine vesicular pores; common distinct grayish brown (10YR 5/2) and few distinct brown (10YR 5/3) clay films on faces of peds; about 5 percent gravel; slightly acid; abrupt smooth boundary.

2C1-60 to 73 inches; dark grayish brown (10YR 4/2) and dark gray (10YR 4/1) sandy loam; few medium prominent strong brown (7.5YR 5/6) mottles; massive; very friable; few fine vesicular pores; common distinct dark gray (10YR 4/1) and few distinct grayish brown (10YR 5/2) clay films on faces of peds; about 5 percent gravel; mildly alkaline; clear smooth boundary.

2C2-73 to 77 inches; dark grayish brown (10YR 4/2 and dark gray (10YR 4/1) gravelly clay loam; few medium distinct yellowish brown (10YR 5/6) mottle massive; very friable; about 15 percent gravel; slight effervescence; mildly alkaline; clear smooth boundary.

2C3-77 to 80 inches; yellowish brown (10YR 5/6) gravelly loam; massive; very friable; about 15 percent gravel; strong effervescence; moderately alkaline.

The solum ranges from 40 to 75 inches in thickness. The content of coarse fragments is 0 to 10 percent in the surface layer and the upper part of the subsoil and 5 to 30 percent in the lower part of the subsoil.

The Ap horizon has hue of 10YR, value of 4, and chroma of 1 to 3. It is silt loam or loam. The Bt horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 1 to 4. It is silt loam, silty clay loam, clay loam, or loam. The 2Btg horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 1 to 4. It is clay loam, loam, or gravelly clay loam. The 2C horizon has hue of 10YR, value of 4 or 5, and chroma of 1 to 6. It is stratified gravelly loamy coarse sand to clay loam.

Sloan Series

The Sloan series consists of dark, nearly level, very poorly drained soils that formed in sediment deposited by flowing streams in relatively recent times. These soils formed under a lowland hardwood forest and swamp grass. They are in depressions in the valleys of major streams.

A representative profile of this series, in a cultivated field, has a very dark brown silty clay loam plow layer 10 inches thick. Below the plow layer is black silty clay loam that extends to a depth of 19 inches. The subsoil is dark gray and gray silty clay loam mottled with yellowish brown. It extends to a depth of 30 inches. The substratum, between depths of 30 and 45 inches, is gray silt loam mottled with yellowish brown. Between depths of 45 and 79 inches, it is yellowish brown silt loam mottled with gray and strong brown. Reaction in the profile is neutral to mildly alkaline. Carbonates are below a depth of 3 feet in some areas. Sloan soils vary greatly in texture and in thickness of layers within short distances.

If Sloan soils are drained, they are well suited to row crops. The use of these soils depends upon the extent to which they are drained and protected from flooding. Some areas are used for crops, but many areas are used for pasture or trees. A few undrained areas have marsh or swamp vegetation.

Representative profile of Sloan silty clay loam, in a cultivated field, in the NW¼NW¼ sec. 4, T. 22 N., R. 18 W. (Franklin Township):

Ap-0 to 10 inches, very dark brown (10YR 2/2) silty clay loam; moderate medium granular structure; friable; neutral; abrupt smooth boundary.

A12-10 to 19 inches, black (10YR 2/1) silty clay loam; strong fine subangular blocky structure; friable; neutral; abrupt smooth boundary.

B21g-19 to 22 inches, dark gray (10YR 4/1) silty clay loam; common medium faint yellowish brown (10YR 5/4) mottles; moderate medium subangular blocky structure; firm, neutral; abrupt smooth boundary.

B22g-22 to 30 inches, gray (10YR 5/1) silty clay loam; many coarse distinct yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; neutral; abrupt smooth boundary.

C1g-30 to 45 inches, gray (10YR 5/1) silt loam; common medium distinct yellowish brown (10YR 5/6) mottles; massive; friable; neutral; clear wavy boundary.

C2-45 to 53 inches, yellowish brown (10YR 5/4) silt loam; many fine distinct gray (10YR 5/1) and yellowish brown (10YR 5/6) mottles; massive; friable; mildly alkaline; clear smooth boundary.

C3-53 to 79 inches, yellowish brown (10YR 5/4) silt loam; common coarse distinct gray (5Y 5/1) mottles and many coarse distinct strong brown (7.5YR 5/6) mottles; massive; firm; few thin strata of silty clay loam; mildly alkaline.

The A1 horizon is 10 to 20 inches thick and is silt loam or silty clay loam. The color is black (10YR 2/1), very dark gray (10YR 3/1), or very dark brown (10YR 2/2). In some areas, the A12 horizon contains the highest percentage of clay in the profile.

The Bg and Cg horizons are stratified in some areas. Silt loam and silty clay loam are the dominant textures in these horizons, but loam and clay loam are common. Sandy and gravelly strata are common below a depth of 3 feet in some areas. The Bg and Cg horizons have a hue of 10YR, 2.5Y, or 5Y, a value of 4 or 5, and a chroma of 1 to 4. Adjacent strata generally differ slightly in color. A thin, buried A1 horizon that has a color as dark as black (10YR 2/1) is below a depth of 3 feet in some areas.

Reaction in the upper part of the B horizon is slightly acid to neutral and grades to mildly or moderately alkaline with depth. Carbonates are below a depth of 30 inches in some areas.

Sloan soils have a darker surface layer than Shoals, Holly, and Algiers soils. They also have poorer natural drainage than Shoals soils. Sloan soils have a dark layer at the surface; but Algiers soils have a dark layer at a depth of 12 to 20 inches. Sloan soils are similar to Luray soils in color, but they do not have the well defined subsoil layers characteristic of those soils.

Tiro Series

The Tiro series consists of nearly level to gently sloping, somewhat poorly drained soils. The upper part of these soils formed in water laid deposits, and the lower part in glacial till deposits. Tiro soils are on knolls, mostly in the northwestern part of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 6 inches thick. This layer is underlain by a 2-inch subsurface layer of pale brown silt loam mottled with yellowish brown. The subsoil is at a depth of 8 inches and extends to a depth of 32 inches. It is yellowish brown silty clay loam mottled with gray and strong brown between depths of 8 and 12 inches; brown silty clay loam mottled with strong brown between depths of 12 and 18 inches; yellowish brown silty clay loam mottled with grayish brown between depths of 18 and 25 inches; yellowish brown loam mottled with grayish brown between depths of 25 and 28 inches; and yellowish brown clay loam mottled with grayish brown between depths of 28 and 32 inches. The substratum is brown clay loam mottled with gray between depths of 32 and 60 inches. The boundary between the upper and lower parts of the subsoil is abrupt and is marked by a line of pebbles or gritty soil material in some areas. The clay loam of the substratum is compact glacial till that is limy in most areas. The upper 2 feet of it is almost free of pebbles, but there are generally a few pebbles below this depth.

Most areas of these soils are too small to be used separately and are used along with surrounding soils, generally in cultivated fields, or in improved pasture.

Representative profile of Tiro silt loam, 2 to 6 percent slopes, in a cultivated field, in the SW¼SE¼ sec. 24, T. 21 N., R. 20 W. (Sharon Township):

Ap-0 to 6 inches, dark grayish brown (10YR 4/2) silt loam; weak fine crumb structure; friable; slightly acid; abrupt smooth boundary.

A2-6 to 8 inches, pale brown (10YR 6/3) silt loam; common fine distinct yellowish brown (10YR 5/6) mottles; moderate thin platy structure; friable; slightly acid; clear irregular boundary.

B1-8 to 12 inches, yellowish brown (10YR 5/4) silty clay loam; few medium distinct gray (10YR 5/1) mottles and few fin distinct strong brown (7.5YR 5/6) mottles; moderate fine subangular blocky structure; firm; grayish brown (10YR 5/2) and light brownish gray (10YR 6/2) ped coatings consisting of an outer silty coating and an inner clay film; strongly acid; clear smooth boundary.

B21t-12 to 18 inches, brown (7.5YR 5/4) silty clay loam; common fine faint strong brown (7.5YR 5/6) mottles; strong medium angular blocky structure; firm; continuous grayish brown (2.5Y 5/2) ped coatings; thin patchy clay films; medium acid; clear wavy boundary.

B22t-18 to 25 inches, yellowish brown (10YR 5/4) silty clay loam; common fine faint yellowish brown (10YR 5/6) mottles and distinct grayish brown (10YR 5/2) mottles; weak coarse prismatic structure that parts to moderate fine and medium subangular blocky structure; grayish brown (10YR 5/2) ped coatings; patchy clay films; very few fine pebbles; slightly acid; abrupt wavy boundary.

IIBt-25 to 28 inches, yellowish brown (10YR 5/4) loam; common fine faint grayish brown (10YR 5/2) mottles; weak fine subangular blocky structure; friable; thin patchy grayish brown (10YR 5/2) clay films on ped faces; 10 percent fine pebbles; slightly acid; abrupt, smooth boundary.

IIIB3-28 to 32 inches, yellowish brown (10YR 5/4) clay loam; common fine distinct grayish brown (10YR 5/2) mottles; weak coarse subangular blocky structure; firm; very few thin clay films; 4 percent fine pebbles some with grayish brown (10YR 5/2) coatings; neutral; clear irregular boundary.

IIIC-32 to 60 inches, brown (10YR 5/3) light clay loam; common fine faint gray (1.0YR 5/1 mottles; massive; firm; a few gray (10YR 5/1) streaks; 5 percent fine pebbles; calcareous; mildly alkaline.

In uncultivated areas the A1 horizon is 1 to 4 inches thick and is very dark grayish brown (10YR 3/2). The A2 horizon, where present, is brown (10YR 5/3), pale brown (10YR 6/3), or grayish brown (10YR 5/2), and it is mottled.

The B1 horizon is as much as 8 inches thick. It is highly degraded in some areas. The B2t horizon is 16 to 30 inches thick. The ped interiors of this horizon have a hue of 7.5YR, 10YR, or 2.5Y, a value of 4 or 5, and a chroma of 3 to 6. Mottles of lower chroma are present. The ped exteriors have a hue of 10YR or 2.5Y, a value of 4 to 6, and a chroma of 1 or 2. The texture is silt loam or silty clay loam in the upper part of the B horizon, and silty clay loam or clay loam in the lower part that extends into the underlying glacial till. Some degradational silt coatings are in the upper B2t horizon in some areas. In some areas the lower boundary of the B2t horizon coincides with the contact between the silty upper part of the profile and the glacial till. In others, this horizon extends as much as 12 inches into the till, and in others, it ends above the contact with the till. In the latter, a B3 horizon is between the B2t horizon and the underlying glacial till. It is friable silt loam, loam, gravelly loam, or fine sandy loam.

Depth to firm glacial till is 24 to 38 inches. This till is clay loam or silty clay loam. It is calcareous within a depth of 60 inches. Reaction in the silty part of the subsoil is slightly acid to very strongly acid in areas that are not limed. The underlying till, where not calcareous, is slightly acid to mildly alkaline. The upper 2 feet of the till is silty, and it contains relatively few pebbles. The 2 to 8 inches of soil just above the till is as much as 25 percent fine pebbles. The till derived part of the profile is 3 to 5 percent pebbles.

Tiro soils differ from Fitchville soils in having compact glacial till at a depth of 24 to 38 inches. The upper part of Tiro soils is siltier, less pebbly, and not so firm, as the upper part of Bennington or Wadsworth soils, which formed entirely in glacial till.

Titusville Series

The Titusville series consists of loamy, gently sloping to sloping, moderately well drained soils that formed in old glacial till. These soils have a dense fragipan in the subsoil that restricts the movement of water. They are on rounded hilltops, on the lower part of hillsides, and at the head of sloping valleys in the southeastern part of the county.

A representative profile of this series, in a cultivated field, has a brown silt loam plow layer 7 inches thick. The subsoil is 53 inches thick. Between depths of 7 and 11 inches, it is yellowish brown silty clay loam; between depths of 11 and 21 inches, yellowish brown clay loam mottled with grayish brown; between depths of 21 and 45 inches, yellowish brown, very firm, brittle loam mottled with dark gray and gray in the upper part and light brownish gray in the lower part; and between depths of 45 and 60 inches, yellowish brown loam mottled with yellowish red in the upper part and strong brown in the lower part. The substratum is yellowish brown loam to a depth of 81 inches.

Titusville soils are moderately well suited to crops and are used mostly for crops or improved pasture.

Representative profile of Titusville silt loam, 2 to 6 percent slopes, in a cultivated field, in the SW¼NE¼ sec. 19, T. 21 N., R. 17 W. (Worthington Township) (laboratory data sample RC-25):

Ap-0 to 7 inches, brown (10YR 5/3) silt loam; very weak fine granular structure; friable; very strongly acid; abrupt smooth boundary.

B1-7 to 11 inches, yellowish brown (10YR 5/4) silty clay loam; weak thick platy structure that parts to moderate very fine subangular blocky structure; friable; few coarse fragments; very strongly acid; clear wavy boundary.

B21t-11 to 16 inches, yellowish brown (10YR 5/4) clay loam; few fine faint yellowish brown (10YR 5/6) mottles; moderate medium and fine, subangular blocky structure; firm; thin patchy brown (10YR 5/3) clay films on ped faces; few coarse fragments; strongly acid; clear wavy boundary.

B22t-16 to 21 inches, yellowish brown (10YR 5/3) clay loam; common fine faint grayish brown (10YR 5/2) mottles and yellowish brown (10YR 5/6) mottles; weak coarse prismatic structure that parts to moderate medium angular blocky structure; firm; prisms coated with brown (10YR 5/3), dark grayish brown (10YR 4/2), and gray (10YR 5/1); blocks coated with brown (10YR 5/3); coatings include thin patchy clay films; 5 percent of prism surfaces coated with dark manganese stains; few coarse fragments; very strongly acid; abrupt wavy boundary.

Bx1-21 to 34 inches, yellowish brown (10YR 5/4) loam; common fine distinct dark gray (10YR 4/1) and gray (10YR 5/1) mottles and common medium faint yellowish brown (10YR 5/6) mottles; strong very coarse prismatic structure that parts to moderate thick platy structure; very firm; brittle; prisms coated with thick, dark gray (10YR 4/1) and gray (10YR 5/1) clay films; thin patchy brown (10YR 5/3) clay films on plates; manganese stains cover 10 to 30 percent of prism and plate surfaces; 5 percent coarse fragments; very strongly acid; diffuse wavy boundary.

Bx2-34 to 45 inches, yellowish brown (10YR 5/6) loam; common coarse prominent, light brownish gray (10YR 6/2) mottles; moderate very coarse prismatic structure that parts to moderate thick platy structure; very firm, brittle; thick dark gray (10YR 4/1) and grayish brown (10YR 5/2) clay films on prisms; thin patchy brown (10YR 5/3) clay films on plates; manganese stains cover 10 percent of vertical surfaces and 10 to 60 percent of horizontal faces; 8

percent coarse fragments; very strongly acid; clear wavy boundary.

B31-45 to 52 inches, yellowish brown (10YR 5/6) loam; few medium distinct yellowish red (5YR 5/8) mottles; weak very coarse prismatic structure that parts to moderate medium subangular blocky structure; firm; common vertical gray (10YR 6/1) streaks and coatings on rock fragments; 5 percent manganese stains on horizontal and vertical faces; 10 percent coarse fragments; very strongly acid; gradual boundary.

B32-52 to 60 inches, yellowish brown (10YR 5/6) loam; common fine and medium distinct strong brown (7.5YR 5/8) mottles; weak very coarse subangular blocky structure that parts to weak thin platy structure; firm; irregular vertical gray (10YR 6/1) streaks; gray (10YR 6/1) coatings on coarse fragments; 20 percent coarse fragments; strongly acid; clear smooth boundary.

C1-60 to 68 inches, yellowish brown (10YR 5/4) loam; common coarse faint yellowish brown (10YR 5/6) mottles; common medium faint grayish brown (10YR 5/2) mottles; and common fine distinct strong brown (7.5YR 5/6) mottles; massive; firm; a few gray (N 6/0) streaks; 15 percent coarse fragments; strongly acid; clear wavy boundary.

C2-68 to 81 inches, yellowish brown (10YR 5/4) loam; few coarse faint yellowish brown (10YR 5/6) mottles and common fine faint grayish brown (10YR 5/2) mottles; massive; friable; 10 percent coarse fragments; slightly acid.

The Ap horizon is dark grayish brown (10YR 4/2) in some areas. In uncultivated areas, the A1 horizon is very dark grayish brown (10YR 3/2) and is 2 to 5 inches thick. An A2 horizon is present in most uncultivated areas and in some cultivated areas. It is brown (10YR 5/3) or yellowish brown (10YR 5/4) silt loam that is free of mottles.

The B1 horizon is 2 to 8 inches thick. It shows a varying amount of degradation. The B2t horizon above the fragipan is 8 to 18 inches thick. It is loam, silt loam, clay loam, or silty clay loam. It is yellowish brown (10YR 5/4 or 5/6) or dark yellowish brown (10YR 4/4) and is mottled with grayish brown (10YR 5/2) or gray (10YR 5/1) within 10 inches of its upper boundary. Degradational silt coatings are present in some areas.

The fragipan begins at a depth of 18 to 26 inches and is 16 to 30 inches thick. It is loam, silt loam, or clay loam. The base color of the ped interiors is typically 10YR 5/4 or 5/6 but includes 10YR 4/4 and 7.5YR 5/4. Prism faces are coated with grayish brown, brown, or yellowish brown. These coatings consist partly of clay films, but the films are not continuous. Degradational silt coatings are present in the upper part of the fragipan in some areas. The fragipan is as much as 15 percent sandstone fragments.

The B3 horizon extends from the base of the fragipan to a depth of at least 60 inches, or to rock. The percentage of sandstone channers increases with depth. Reaction in the solum is strongly acid or very strongly acid. There are no carbonates to a depth of at least 60 inches.

Titusville soils are similar to Hanover soils in texture but are mottled at a shallower depth and have poorer natural drainage. They have a more pebbly and less silty subsoil than Glenford soils and contain less rounded gravel than Bogart soils. In addition, Titusville soils have a fragipan, which is absent in Glenford and Bogart soils. Titusville soils are similar to Canfield soils, but they formed in glacial till that is older than that in which Canfield soils formed, and is acid to a greater depth.

Wadsworth Series

The Wadsworth series consists of nearly level to gently sloping, somewhat poorly drained soils. These soils formed in glacial till that is low in content of lime. They have a very dense fragipan in the subsoil that restricts the downward movement of water. They are mostly in the central part of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 8 inches thick. The subsoil, between a depth of 8 and 13 inches, is yellowish brown silt loam mottled with grayish brown. Between depths of 13 and 20 inches, it is firm, yellowish brown silty clay loam. The yellowish brown fragipan begins at a depth of 20 inches and extends to a depth of 38 inches. It is silty clay loam in the upper 8 inches and clay loam in the lower 10 inches, and is mottled with grayish brown. Through the soil mass are vertical grayish brown streaks that intersect to form blocks 4 to 8 inches across. The interiors of these blocks are very firm and dense and are not easily penetrated by plant roots or water. The lower layer of subsoil, between depths of 38 and 44 inches, is firm, yellowish brown clay loam glacial till. The substratum, between depths of 44 to 60 inches, is yellowish brown loam till mottled with grayish brown. Reaction is medium acid to very strongly acid in the surface layer and in the subsoil. A few small pebbles are throughout the profile.

If Wadsworth soils are drained, they are suited to crops. Most areas were formerly used for crops, but a large acreage is now used for residential developments and other nonfarm purposes.

Representative profile of Wadsworth silt loam, 2 to 6 percent slopes, in a cultivated field, in the SW¼ NE¼ sec. 11, T. 21 N., R. 18 W. (Madison Township) (laboratory data sample profile given in section "Laboratory Test Data"):

Ap-0 to 8 inches, dark grayish brown (10YR 4/2) silt loam; weak medium granular structure; friable; medium acid; abrupt smooth boundary.

B1-8 to 13 inches, yellowish brown (10YR 5/4) silt loam; many coarse faint grayish brown (10YR 5/2) mottles and common medium faint yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; medium acid; clear wavy boundary.

B2t-13 to 20 inches, yellowish brown (10YR 5/4) silty clay loam; many coarse faint grayish brown (10YR 5/2) mottles; moderate medium angular blocky structure; firm; thin grayish brown (10YR 5/2) clay films on ped faces; strongly acid; clear wavy boundary.

Bx1-20 to 28 inches, yellowish brown (10YR 5/4) silty clay loam; many coarse distinct grayish brown (10YR 5/2) mottles; weak coarse prismatic structure that parts to weak medium platy structure; very firm, brittle; thick pale brown (10YR 6/3) silt coatings and grayish brown (10YR 5/2) clay coatings on prism faces; strongly acid; gradual boundary.

Bx2-28 to 38 inches, yellowish brown (10YR 5/6) clay loam; many coarse faint yellowish brown (10YR 5/4) mottles and common medium distinct grayish brown (10YR 5/2) mottles; moderate coarse prismatic structure that parts to weak medium platy structure; very firm, brittle; grayish brown (10YR 5/2) clay films continuous on prism faces; strongly acid; clear wavy boundary.

B3-38 to 44 inches, yellowish brown (10YR 5/4) clay loam; many coarse faint grayish brown (10YR 5/2) mottles and common medium faint yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; few grayish brown (10YR 5/2) clay films on ped faces; medium acid; gradual boundary.

C-44 to 60 inches, yellowish brown (10YR 5/4) loam; many coarse distinct grayish brown (10YR 5/2) mottles; massive; firm; neutral.

In unplowed areas a very dark grayish brown (10YR 3/2) A1 horizon is 2 to 4 inches thick. It is underlain by an A2 horizon that is grayish brown (10YR 5/2) silt loam mottled with brown or yellowish brown. A part of the A2 horizon is in some cultivated areas. The thickness of the A horizon ranges from 6 to 12 inches.

The B1 horizon is 3 to 6 inches thick. Silt coatings are on peds in the B1 horizon in some areas. The B2t horizon above the fragipan is 6 to 10 inches thick. It is light silty clay loam. Ped faces in this horizon are covered by grayish brown or gray clay films. Silt coatings are also on peds in the B2t horizon in some areas. The ped interiors have a hue of 10YR or 2.5Y, a value of 4 or 5, and a chroma of 4 to 6.

The fragipan is at a depth of 16 to 28 inches and is 12 to 30 inches thick. The color of ped interiors in the fragipan is a mixture of grayish brown, yellowish brown, and light olive brown in a hue of 10YR or 2.5Y. Dark colored manganese concretions are in the fragipan in some areas. The texture of the fragipan is silt loam, loam, silty clay loam, or a combination of any of these.

Reaction in and above the fragipan is medium acid to very strongly acid. Reaction below the fragipan becomes less acid with depth. Depth to calcareous till ranges from 40 inches to more than 60 inches. Where carbonates are not present within a depth of 60 inches, reaction is neutral to mildly alkaline at a depth of 60 inches. The texture of the underlying till is loam, silt loam, clay loam, silty clay loam, or a combination of any of these. Coarse fragments are less than 2 percent in the A, B1, and B2t horizons and 2 to 5 percent in the Bx, B3, and C horizons.

Wadsworth soils are similar to Rittman soils in texture, but they are mottled at a shallower depth, have poorer natural drainage, and are generally lower on the landscape. Wadsworth soils have a less gray subsoil than Frenchtown soils and have better natural drainage. Wadsworth soils are more clayey than Ravenna soils, especially in the subsoil. They have a denser, but less clayey subsoil than Bennington soils. They have a denser subsoil than Fitchville soils, and they contain more pebbles.

Wallkill Series

The Wallkill series consists of nearly level, very poorly drained soils in depressions. These soils formed in loamy mineral material underlain by organic material. Their original surface layer was peat or muck. This very dark colored organic material was buried under lighter colored soil material that was washed from the hillsides. Unlike most soils, Wallkill soils have a surface layer that is lighter colored than the underlying layers of their profile. These soils are in the northern and central parts of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 10 inches thick. The subsoil between depths of 10 and 24 inches, is grayish brown silt loam mottled with yellowish brown. Below this is 10 inches of black muck underlain by 16 inches of very dark brown peat. Grayish brown silt loam mottled with yellowish brown is at a depth of 50 inches and extends to a depth of more than 60 inches. The entire profile is neutral or slightly acid.

Representative profile of Wallkill silt loam, in a cultivated field, in the SW¼SE¼ sec. 9, T. 21 N., R. 18 W. (Madison Township):

Ap-0 to 10 inches, dark grayish brown (10YR 4/2) silt loam; moderate fine granular structure; friable; neutral; abrupt smooth boundary.

Bg-10 to 24 inches, grayish brown (2.5Y 5/2) silt loam; common coarse and medium distinct yellowish brown (10YR 5/4 and 5/6) mottles; weak medium subangular blocky structure; friable; slightly acid; abrupt smooth boundary.

IIOa-24 to 34 inches, black (N 2/0) sapric material; 20 percent fibers, less than 5 percent when rubbed; massive in place, but parts to strong fine granular structure; friable; neutral; smooth diffuse boundary.

IIOe-34 to 50 inches, very dark brown (10YR 2/2) hemic material; 40 percent fibers, 15 percent when rubbed; massive; friable; neutral; abrupt wavy boundary.

IIICg-50 to 60 inches +, grayish brow (10YR 5/2) silt loam; common fine distinct yellowish brown (10YR 5/6) mottles; massive; friable; neutral.

The upper, mineral part of the soil is 18 to 30 inches thick. The texture of this part is silt loam or silty clay loam, and there are thin strata of other textures. The Ap horizon is dark gray (10YR 4/1) or dark grayish brown (10YR 4/2).

The Bg horizon has a hue of 10YR or 2.5Y, a value of 4 or 5, and a chroma of 1 or 2. The organic horizons have a total thickness of at least 20 inches. These horizons consist of sapric or hemic material. The degree of decomposition decreases with depth. The IIIC horizon is not within a depth of 60 inches in all areas. This horizon is commonly silt loam or silty clay loam. Reaction is slightly acid to mildly alkaline throughout the profile.

The color sequence of light over dark in Wallkill soils distinguishes them from most other soils in the county. Algiers soils have a similar color sequence, but in these soils the buried dark layer is mineral soil, whereas in Wallkill soils it is organic.

Westmoreland Series

The Westmoreland series consists of deep, well drained soils that formed in colluvium and residuum derived from interbedded sandstone, siltstone, and shale. These soils are on unglaciated hillsides. Slope ranges from 12 to 40 percent.

Westmoreland soils are similar to Loudonville soils and commonly are adjacent to Brownsville, Coshocton, Gilpin, and Rigley soils. Brownsville

soils have a higher content of coarse fragments in the A and B horizons than the Westmoreland soils and do not have an argillic horizon. They are in positions on the landscape similar to those of Westmoreland soils. Coshocton soils are moderately well drained and have an argillic horizon. Gilpin and Loudonville soils are moderately deep over bedrock. Rigley soils have more sand throughout than the Westmoreland soils. Coshocton, Gilpin, and Rigley soils commonly are on hilltops above the Westmoreland soils.

Typical pedon of Westmoreland silt loam, 12 to 18 percent slopes, about 3.8 miles east of Millwood; in an area of Union Township, Knox County, about 2,600 feet southeast along Edgington Road from the intersection of Edgington and Chestnut Ridge Roads, then about 70 feet west, T. 7 N., R. 10 W:

A-0 to 3 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine granular structure; very friable; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; about 10 percent small angular sandstone fragments; medium acid; clear wavy boundary.

BE-3 to 8 inches; dark yellowish brown (10YR 4/4) loam; weak thin platy structure; very friable; few distinct brown (10YR 5/3) silt coatings on faces of peds; few small sandstone fragments; strongly acid; clear irregular boundary.

Bt1-8 to 14 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; common distinct brown (10YR 5/3) clay films on faces of peds and in root channels; about 5 percent small angular sandstone fragments; strongly acid; gradual wavy boundary.

Bt2-14 to 18 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; common distinct brown (10YR 5/3) clay films on faces of peds; about 5 percent small angular sandstone fragments; medium acid; clear smooth boundary.

Bt3-18 to 24 inches; yellowish brown (10YR 5/6) channery silt loam; moderate fine subangular blocky structure; friable; common distinct brown (10YR 5/3) clay films on faces of peds and on coarse fragments; about 20 percent small sandstone channers; few dark stains on channers; medium acid; clear wavy boundary.

BC-24 to 34 inches; yellowish brown (10YR 5/6) very channery silt loam; weak coarse subangular blocky structure; friable; about 50 percent small, randomly oriented sandstone channers; strongly acid; clear wavy boundary.

C-34 to 48 inches; yellowish brown (10YR 5/6) extremely channery silt loam; massive; friable; about 70 percent olive brown (2.5Y 4/4) sandstone channers 3 to 8 inches in diameter and 0.5 to 1.0 inch thick; channers displaced from original bedding planes; strongly acid; clear smooth boundary.

R-48 to 50 inches; olive brown (2.5Y 4/4) thinly bedded fine grained sandstone and siltstone; beds 1 to 3 inches thick.

The thickness of the solum ranges from 30 to 40 inches and the depth to bedrock from 40 to 80 inches. In unlimed areas the solum is very strongly acid to medium acid. The C horizon is strongly acid or medium acid. The coarse fragments are mostly sandstone or siltstone of channers. The content of coarse fragments is 2 to 30 percent in the BE and Bt horizons, 20 to 70 percent in the BC horizon, and 50 to 80 percent in the C horizon.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 2. It is commonly silt loam but is loam or channery silt loam in some pedons. Some pedons have an E horizon. Pedons in cultivated areas have an Ap horizon.

The BE and Bt horizons have hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 to 6. Mottles with low chroma are below a depth of 30 inches where beds of clayey shale restrict internal water movement. The BE and Bt horizons are dominantly silt loam, loam, or the channery analogs of these textures, but they have subhorizons of clay loam or silty clay loam in some pedons. The BC horizon has colors similar to those of the Bt horizon, but hue is 2.5Y in some zones where rock fragments of that hue have weathered into soil. The BC horizon is channery, very channery, or extremely channery silt loam or loam. It has thin subhorizons of channery or very channery silty clay loam in some pedons.

The C horizon is very channery or extremely channery silt loam or loam. The underlying rock is dominantly fine grained sandstone and siltstone, but it has thin beds of shale in some pedons. It commonly has hue of 2.5Y, value of 4 to 6, and chroma of 2 to 4 on unweathered faces.

Wheeling Series

The Wheeling series consists of nearly level to moderately steep soils that are well drained. These soils formed in lacustrine sediment. They are mostly on stream terraces in the southern part of the county.

A representative profile of this series, in a cultivated field, has a dark grayish brown silt loam plow layer 8 inches thick. The underlying subsoil is 52 inches or more thick. It is yellowish brown silt loam between depths of 8 and 11 inches; brown silt loam between depths of 11 and 18 inches; and yellowish brown clay loam between depths of 18 and 28 inches. Between depths of 28 and 36 inches, the subsoil is yellowish brown, acid, gravelly sandy loam that is friable but sticky when wet, and between depths of 36 and 60 inches, it is loose, gravelly sandy loam that grades to sand and gravel with depth.

Most areas of these soils are used for crops. A few of the steeper areas are used for permanent pasture or trees.

Representative profile of Wheeling silt loam, 0 to 2 percent slopes, in a cultivated field, in the SW¼NE¼ sec. 1, T. 21 N., R. 17 W. (Worthington Township) (laboratory data sample RC-24):

Ap-0 to 8 inches, dark grayish brown (10YR 4/2) silt loam; weak; fine granular structure; friable; neutral (limed); abrupt smooth boundary.

B1-8 to 11 inches, yellowish brown (10YR 5/4) silt loam; weak; medium subangular blocky structure; friable; few pale brown (10YR 6/3) silt coatings; neutral; clear irregular boundary.

B21t-11 to 18 inches, brown (7.5YR 4/4) silt loam; moderate medium subangular blocky structure; friable; thin patchy yellowish brown (10YR 5/4) clay

films on ped faces; 2 percent coarse fragments; very strongly acid; clear wavy boundary.

B22t-18 to 28 inches, yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; firm; moderately thick, patchy, brown (10YR 5/3) clay films on ped faces; 5 to 10 percent coarse fragments; very strongly acid; abrupt smooth boundary.

IIBt-28 to 36 inches, yellowish brown (10YR 5/4) gravelly sandy loam; massive; very friable, sticky; sand grains and coarse fragments coated and bridged with clay; 25 percent gravel; very strongly acid; abrupt smooth boundary.

IIIB3-36 to 60 inches, yellowish brown (10YR 5/4) gravelly sandy loam, grading with depth to gravel and sand; single grain; loose; few coarse fragments coated and bridged with clay; 45 percent gravel, the percentage of coarser gravel increases slightly with depth; strongly acid.

The thickness of loamy material over sandy or gravelly material ranges from 20 to 40 inches. The Ap horizon is dark grayish brown (10YR 4/2) or brown (10YR 4/3). In uncultivated areas the A1 horizon is very dark grayish brown (10YR 3/2) or very dark brown (10YR 2/2). An A2 horizon is in some uncultivated areas. It is generally yellowish brown (10YR 5/4), friable silt loam and has weak, platy or subangular blocky structure.

The B1 horizon is 2 to 7 inches thick. It has a hue of 10YR or 7.5YR, a value of 4 or 5, and a chroma of 4 to 6. It is silt loam and shows evidence of degradation in some areas. The B2t horizon is 18 to 28 inches thick. Typically, this horizon is partly in the upper, loamy material, and partly in the lower, sandy or gravelly material. The percentage of each material depends on the depth at which the boundary between the two materials occurs. In some profiles the B2t horizon is entirely in the upper material. The B2t horizon has a hue of 7.5YR or 10YR, a value of 4 or 5, and a chroma of 3 to 6. The texture of the upper B2t horizon is silt loam, silty clay loam, or clay loam. The texture of the lower part of the B2t horizon is gravelly sandy loam, gravelly loam, gravelly clay loam, or gravelly sandy clay loam. This part of the B2t horizon is 15 to 30 percent gravel. Clay films are on ped faces and have a range of color similar to that of ped interiors.

The B3 horizon is not present in all profiles. The B3 or C horizon, where present, is stratified. The texture of the strata varies between sand, gravel, gravelly sand, gravelly loamy sand, and gravelly sandy loam. The gravel component of the material consists mostly of partly rounded sandstone fragments but includes a high percentage of angular sandstone chips in some areas. The color is brown or yellowish brown. Adjacent strata generally differ slightly in color. Reaction is medium acid to strongly acid throughout the solum, except for the effects of liming in the Ap horizon. The C horizon is medium acid to neutral. Depth to carbonates exceeds 60 inches.

Wheeling soils are similar to Bogart silt loams in texture, but they have better natural drainage and do not have gray mottles in the upper part of the subsoil. The upper 20 to 40 inches of Wheeling soils is less gravelly than the upper part of Chili, Conotton, or Belmore soils. The upper part of the Wheeling and Mentor soils are similar, but Wheeling soils are gravelly at a depth of 20 to 40 inches, and Mentor soils are silty to a depth of 4 feet or more. Wheeling and Mentor soils that have slopes of more than 12 percent are mapped together as undifferentiated units.

Wooster Series

The Wooster series consists of well drained, gently sloping to very steep soils that formed in glacial till that is low in content of lime. These soils have a fragipan that restricts the movement of water. They are extensive in the southwestern and central parts of the county.

A representative profile of this series, in a cultivated field, has a dark brown silt loam plow layer 8 inches thick. The upper part of the subsoil is yellowish brown silt loam that extends to a depth of 24 inches. Below this is the fragipan, which extends to a depth of 40 inches. It is yellowish brown, very firm and brittle silt loam. Brown clay occurs as vertical streaks through the soil mass. Below the fragipan, and extending to a depth of 50 inches, the subsoil is friable, yellowish brown loam glacial till. This part of the subsoil is medium acid. The substratum, between depths of 50 and 60 inches, is yellowish brown, slightly acid loam, and stones are in all parts of the profile.

The less strongly sloping areas of Wooster soils are used mainly for crops or improved pasture. Suitability for crops decreases as the slope becomes steeper and the degree of erosion increases. The steeper areas are mainly in pasture or trees. Some areas of Wooster soils are not farmed but are used for residential developments and for other nonfarm purposes.

Representative profile of Wooster silt loam, 6 to 12 percent slopes, moderately eroded, in a cultivated field, in the SE¼SW¼ sec. 25, T. 19 N., R. 19 W. (Perry Township):

Ap-0to 8 inches, dark brown (10YR 4/3) silt loam; weak, fine crumb structure; friable; few fine pebbles; slightly acid; abrupt smooth boundary.

B1-8to 12 inches, yellowish brown (10YR 5/4) silt loam; moderate fine subangular blocky structure; friable; few fine pebbles; medium acid; clear wavy boundary.

B2t-12 to 24 inches, yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; firm; few pale brown (10YR 6/3) silt coatings and brown (10YR 5/3) clay films on ped surfaces; 5 percent pebbles; strongly acid; clear smooth boundary.

Bx-24 to 40 inches, yellowish brown (10YR 5/4) silt loam; weak very coarse prismatic structure that breaks to moderate medium platy structure; very firm, brittle; medium patchy brown (10YR 5/3) clay films and pale brown (10YR 6/3) silt coatings on ped faces; few medium prominent black (10YR 2/1) manganese concretions; 5 to 10 percent coarse fragments; medium acid; clear smooth boundary.

B3-40 to 50 inches, yellowish brown (10YR 5/4) loam; few fine faint grayish brown (10YR 5/2) mottles; weak medium subangular blocky structure; firm; 5 to 10 percent coarse fragments; medium acid; gradual boundary.

C-50 to 60 inches, yellowish brown (10YR 5/4) loam; few fine faint grayish brown (10YR 5/2) mottles; massive; firm; 5 to 10 percent coarse fragments; slightly acid.

In uncultivated areas the A1 horizon ranges from 1 to 4 inches in thickness and is very dark grayish brown (10YR 3/2). An A2 horizon is in uncultivated areas and in some cultivated areas. It is commonly brown or yellowish brown, friable silt loam.

The B1 horizon is 2 to 6 inches thick. Its peds have a varying amount of silt coating. The A and B1 horizons are commonly silt loam but are loam in places. The B2t horizon is 6 to 16 inches thick. It has a hue of 10YR or 7.5YR, a value of 4 or 5, and a chroma of 4 to 6. The fragipan begins at a depth of 20 to 30 inches and is 12 to 26 inches thick. It is loam or silt loam and dominantly yellowish brown or brown in a hue of 10YR or 7.5YR. The color of ped interiors varies. Low chroma mottles are in some areas. Dark manganese concretions are not present in all areas. A B3 horizon, 4 to 10 inches thick, that shows very slight evidence of clay movement is below the fragipan.

The C horizon is loam or silt loam. The fragipan and the horizons above it are medium acid to strongly acid, and the horizons below it are slightly acid to neutral. The depth to carbonates is more than 60 inches. Coarse fragments make up 5 to 15 percent, by volume, of the soil mass. Weathered sandstone is below a depth of 4 feet in some areas.

Wooster soils are similar to Canfield soils, but mottles begin deeper in the profile of Wooster soils, natural drainage is better, and landscape positions are typically higher and steeper. Mottles begin deeper in Wooster soils than in Rittman soils, and Wooster soils have less clay within subsoil. Also, they have a denser subsoil and are deeper to rock than Lordstown or Loudonville soils. Wooster soils have a denser subsoil than Chili or Mentor soils, are less gravelly than Chili soils, and are more pebbly and less silty than Mentor soils. They are less clayey and more acid than Alexandria soils. Wooster soils are similar to Hanover soils but are less acid at a shallower depth.

Formation of the Soils

This section relates the factors of soil formation to the soils in Richland County and explains the processes of soil formation.

Factors of Soil Formation

A soil is a three-dimensional, natural body capable of supporting plant growth. The nature of the soil at a given site is the result of the interaction of many factors. For the sake of convenience, these factors can be grouped into five general categories: parent material, climate, plants and animals, relief, and time. Theoretically, if all these factors are identical at different sites, soils at these sites should also be identical. The variations among soils are caused by variations in one or more of these factors.

Parent material

Parent material is the raw material acted upon by the other soil-forming factors. It largely determines the soil texture. The soils of Richland County formed in different kinds of parent material. Some of this material was deposited by glaciers that covered the area thousand of years ago, or by melt water from these glaciers. Other kinds of parent material have been deposited by flowing streams in relatively recent times, and still other kinds are rock that has weathered in place and organic material formed by decaying plants.

Glacial till is material that was deposited directly by glacial ice, with little or no action by water. The glacier contained assorted soil material, which was left behind when the glacier melted. Glacial till typically contains particles that vary in size, including some large stones. The smaller stones and pebbles have sharp angles, indicating that they have not been rounded by the action of water. The composition of the till depends on the nature of the area over which the ice passed before reaching the area of deposition. Some boulders were carried for long distances, but most of the material in the till was of local origin. Most of the glacial till in Richland County was deposited during the latest major glaciation, the Wisconsin Glaciation. The glacial till in the northern part of the county is relatively high in content of clay and lime. Bennington and Cardington soils, which formed in this till, have a subsoil of clay loam or silty clay loam and have natural lime below a depth of about 3 feet. Farther south the till contains less limestone and shale and more sandstone. Wooster and Canfield soils formed in this till; They have a subsoil of loam but have no lime within a depth of 5 feet.

In a small area of the county are glacial till deposits of an earlier glaciation, the Illinoian. Hanover and Titusville soils formed in these older deposits.

Soils that formed in glacial till are generally compact and have slow or moderately slow permeability. They generally make good foundation material because of the wide range in size of the soil particles.

Melt-water deposits were laid down by, or in, water from the melting glaciers. They are of two general kinds: lacustrine deposits, laid down in still water; and outwash deposits, laid down by moving water. The size of particles that can be carried suspended in water depends on the speed at which the water is moving. When water slows to a given speed, all particles larger than a given size that are suspended in the water will drop out. Reduction of speed occurs where a stream flows into a still lake. The coarser sand and gravel particles are dropped immediately near the mouth of the stream, and the fine clay particles are carried far into the lake, where they slowly settle from the still water.

Lacustrine soils are inextensive in Richland County. Fitchville, Luray, and Glenford are lacustrine soils. They formed in deposits laid down in small lakes that existed after the glaciers melted. The largest of these lakes was northwest of Shelby.

Soils that formed in outwash deposits are of great extent in the county. These outwash deposits were laid down as melt water from the glaciers poured down the valleys between the rock hills. Because of the speed of the water, the smaller silt and clay particles were carried along in the water, but the sand and gravel were left behind. Chili and Bogart soils formed in these outwash deposits and are gravelly and porous.

The speed of water at many points did not remain constant during the period of deposition. Changes in the speed of water caused the deposition of thin layers of material in which the predominant particle size differs from that in the layers above and below. This phenomenon is called stratification, and the individual layers are called strata. In many areas of Luray and Fitchville soils, for example, there are alternating thin strata of silt loam and silty clay loam. Even more drastic changes in material deposition are indicated by "two-story" soils like Wheeling. The upper part of these soils formed in loamy deposits laid down in

still water, but the lower part formed in sandy or gravelly deposits laid down by moving water.

The melt-water deposits in the county also differ in content of lime. For example, the gravel in Belmore soils is mostly limestone and is calcareous, but that in Chili soils is mostly sandstone and is acid.

Alluvium is soil material deposited by flowing streams. The texture of alluvium varies because the speed and duration of floodwater varies considerably within small areas. The soil horizons are poorly expressed because the soil forming process starts over again with each new deposition. One or more buried surface layers are present in many areas, and the soils are highly stratified. The source of most alluvium is other soils farther upstream in the watershed. Lobdell, Shoals, and Holly soils formed in alluvium. Pewamo, overwash, soils are a special kind of soil that formed in recent local alluvium that was removed by erosion from adjacent slopes.

Weathered rock is the parent material of many soils in the county, especially in the southern part. Most of the rock in Richland County is sandstone. The coarse-grained Black Hand Sandstone weathers to form sand or loamy sand. Schaffenaker soils formed in this kind of material. They are very droughty and have low productivity. A finer grained sandstone weathers to silt loam such as that of the Lordstown soils. In general, soils that formed in weathered sandstone are well drained and are low in content of clay.

Carlisle soils and the upper part of Linwood soils formed in the residue from decomposed plants. Plants died and fell into shallow lakes. Here, the permanently wet condition prevented oxidation and slowed decomposition, and the residue accumulated. The very dark color of Carlisle and Linwood soils is from their organic parent material.

Climate

Climate in an area the size of Richland County is essentially a constant factor of soil formation. None of the soil differences in the county can be directly attributed to differences in climate. The county has a humid, temperate climate, which favors hardwood trees.

There are some differences in microclimate that affect the amount of precipitation. The amount of effective precipitation is reduced by runoff on steep slopes and is increased by drainage into depressional areas.

Plants and animals

The vegetation under which a soil forms influences the color, structure, and organic matter content of the soil. Soils that formed under forest are generally lighter in color than those that formed under grass, because grass is more effective than trees in returning organic matter to the soil. Grass also promotes granular structure in the surface layer of the soil.

Most of the soils in Richland County formed under hardwood forest. Wooster, Alexandria, and Lordstown soils formed under a forest consisting mostly of such hardwoods as red oak, white oak, and black oak. Sebring, Frenchtown, and most of the other poorly drained and very poorly drained soils formed under swamp forest.

Bacteria, fungi, and many other micro-organisms aid in the breakdown and return of plant residue to the soil. The kind of organic residue that is returned to the soil depends, to some extent, on the kind of organism involved in the breakdown. Generally fungi are most active in acid soils and bacteria in alkali soils.

Earthworms, burrowing insects, and other small animals constantly mix the soil. Their burrows help to make the soil porous and permit passage of water. Earthworms help to incorporate organic matter into the soil. Leaf fall that is well populated with earthworms is usually incorporated into the soil by early the next spring. If the earthworm population is low, part of the leaf fall will remain on the surface of the soil for 2 or 3 years.

Man is a late comer as an influence in soil formation, and his influence will be great on future soils. Accelerated erosion caused by cultivation and clearing is one example of his influence. Cultivation also affects soil structure and tends to lower the content of organic matter. Large areas of Pewamo, Luray, and other wet soils have been drained artificially. Future soil formation in these areas will take place under drier conditions than in the past. The change of vegetation from the native forest to cultivated crops can also be expected to affect future soil formation. The addition of lime, fertilizer, and other amendments changes, to some degree, the chemical composition of the soil.

Relief

Relief, along with parent material, affects the natural drainage of soils. Relief influences the amount of runoff and the depth to the ground water table. In general, the steeper soils have better drainage than the nearly level soils. Different kinds of soil can form in the same kind of

parent material under different drainage conditions. For example, Mentor and Luray soils formed in silty lacustrine deposits. Mentor soils are in high positions where the water table generally is not close to the surface. Water passes through these soils readily, and they are well drained. Luray soils, however, are in low, nearly level areas in which the water table is close to the surface. Even though these soils are permeable enough for water to pass through them, water tends to accumulate in them, and they are very poorly drained.

A group of soil series that formed in the same kind of parent material but have different natural drainage is called a toposequence, or soil catena. There are two to four soil series in most of the toposequences in Richland County. For example, the well drained Wooster, the moderately well drained Canfield, the somewhat poorly drained Ravenna, and the poorly drained Frenchtown soils make up a toposequence of soils that formed in loam glacial till. Similarly, the Belmore, Haney, and Digby series make up a toposequence that formed in outwash deposits.

Relief varies greatly in Richland County. In the northern part of the county the most extensive landform is a nearly level to gently undulating till plain. Relief is stronger through the central part of the county, where the glacier had a less leveling effect on the hills underlain by rock. Relief is even stronger in the southeastern part of the county, where the glacier had little effect on the hills. The proportion of well drained soils is considerably greater in the steeper, southern part of the county. Conversely, the proportion of poorly drained and somewhat poorly drained soils is much higher in the more nearly level northern part of the county.

Time

The length of time during which parent material has been exposed to the soil-forming processes affects the nature of the soil that forms. The youngest soils in the county, in terms of years, are the soils that are forming in recent stream deposits. Lobdell and Shoals soils are forming in these deposits and have less definite horizon development than older soils.

The county was covered by two major glaciations, the Wisconsin and the Illinoian. Geologists estimate that these glaciations occurred about 100,000 years apart. Hanover soils, which formed in the earlier Illinoian till deposits, have thicker horizons and are leached of bases (calcium and magnesium) to a greater depth than Wooster soils, which formed in the later Wisconsin deposits of similar texture. The differences between Hanover and Wooster soils, however, are not proportional to the supposed age difference, indicating that factors other than time are involved.

The same soil-forming factors act with different rates on different materials. The regolith of Schaffenaker soils, for example, is largely quartz, a very resistant mineral. Thus, although Schaffenaker soils are among the oldest in the county, they have very weak horizon development.

Processes of Soil Formation

Soils are formed by the five soil-forming factors through complex, continuing processes that can be grouped into four general categories: addition, removal, transfer, and transformation (41). These four processes occur in the formation of all soils, although their predominance varies.

In Richland County the accumulation of organic matter in the formation of organic soils is an example of the process of addition. This addition of organic residue is mainly responsible for the dark color of the surface layer. When the parent material was laid down, the top layer was no darker than the others, but the organic residue from plants that grew in the soil darkened the surface layer.

The loss of lime from the upper 3 to 6 feet of many of the soils in Richland County is an example of the removal process. The parent material of these soils was limy, but the lime has been leached from the upper part of the profile by water moving through the soil.

Water is the carrier for most of the transfers that occur in the formation of soils in this county. In many of the soils, clay has been transferred from the A horizon to the B horizon. Thus, the A horizon, especially the A2 horizon, is a zone of eluviation, or loss. The B horizon is a zone of illuviation, or gain. In the Cardington, Wooster, Loudonville, and other soils, the B horizon contains more clay than the parent material, and the A2 horizon contains less. In the B horizon of some soils, there are thin films of clay in the pores and on ped surfaces. This clay has been moved from the A horizon. The presence or absence of these clay films is an important criterion in soil classification.

An example of transformation is the weathering of shale into clay. All stages of this process can be observed in the profile of Latham soils. The sequence of transformation is from hard shale to soft shale to platy, shale-like clay to clay.

The four soil-forming processes have worked in all the soils of the county, but to varying degrees. For example, the accumulation of organic matter has been predominant in the

formation of Luray and Pewamo soils, whereas the removal of carbonates and the transfer of clay have been predominant in the formation of Cardington and Glenford soils.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

Ablation till. Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvium. 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 water 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.

Backswamp. A floodplain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Basal till. Compact till deposited beneath the ice.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope. 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 ridge. A low, essentially continuous mound of beach or beach and dune material heaped up by the action of waves and currents on the backshore of a beach, beyond the present limit of storm waves, and occurring singly or as one of a series of approximately parallel deposits. These ridges define the limits of relict lakes.

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Beta horizon. A special type of lower Bt horizon with a significant accumulation of translocated silicate clay between two contrasting parent materials.

Borrow pit. An open excavation from which soil and underlying material have been removed, usually for construction purposes. Typically less than 2 acres in size. Larger areas are mapped as Udorthents.

Bottom land. The normal flood plain of a stream, subject to flooding.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. The steep and very steep broken land at the border of an upland summit that is dissected by ravines.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Bulk density. The mass of a dry soil per unit bulk volume. The bulk volume is determined before drying to a constant weight at 105 degrees C. The value is expressed in grams per cubic centimeter.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

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.

Cement rock. Shaly limestone used in the manufacture of cement.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Clayey. Containing more than 35 percent clay.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Closed depression. A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and is without a natural outlet for surface drainage.

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.

Compaction. Any process by which the mineral grains of soil are rearranged to decrease void space and bring them into closer contact with one another, thereby increasing the weight of solid material per cubic foot. In agronomy, usually associated with machinery traffic across the soil during farming operations.

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.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

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.

Conglomerate. A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour. An imaginary line on the surface of the earth connecting points of the same elevation.

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat). Fecal material deposited in water by aquatic organisms.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropland. Land used primarily for the production of adapted cultivated, close-growing crops, fruit, or nut crops for harvest, alone or in association with sod crops.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is 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 material. A very firm, massive, noncemented, root-restrictive layer (commonly till) that has no cracks or in which the spacing of cracks that roots can enter is 10 centimeters or more. The materials within the survey area have a bulk density of more than 1.8 grams per cubic centimeter.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Depth to bedrock (in tables). Bedrock is too near the surface for the specified use.

Depth to 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.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Dolostone. A term used for the sedimentary rock dolomite in order to avoid confusion with the mineral of the same name. A carbonate sedimentary rock consisting mostly (more than 50 percent by weight) of the mineral dolomite [$CaMg(CO_3)_2$].

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw. A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

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.

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.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Effervescence. The gaseous response (observed as bubbles) of soil to applied hydrochloric acid (HCl) or other chemicals. A field or laboratory test to determine the presence of carbonates in the soil.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

End moraine. A moraine produced at the front of an actively flowing glacier at any given time.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian soil material. 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.

Escarpment. A relatively continuous and steep slope or cliff, generally produced by erosion or faulting, breaking the general continuity of more gently sloping land surfaces. Exposed nonbedrock material is nonsoil material or very shallow, poorly developed soil. Typically 0.1 acre to 2 acres in size. Synonym: scarp.

Esker. A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

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*.

Filtering capacity (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

Fine textured soil. Sandy clay, silty clay, or clay.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flaggy soil material. Material that 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.

Floodplain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Footslope. The geomorphic component that forms the inner, gently inclined surface at the base of a hillslope. The surface profile is dominantly concave. In terms of gradational processes, the footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition

(toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

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.

Gravel pit. An open excavation from which soil and the loose underlying material have been removed and used as a source of sand or gravel, usually for construction purposes.

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.

Gravelly spot. An area in which the surface layer has more than 35 percent, by volume, rock fragments (mostly less than 3 inches in diameter) in an area of surrounding soil that has less than 15 percent rock fragments.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground moraine. An extensive, fairly even layer of till that has an uneven, undulating surface; a deposit of rock and mineral debris dragged along, in, on, and beneath a glacier and emplaced by processes including basal lodgment and release from downwasting stagnant ice by ablation.

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.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head out. To form a flower head.

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.

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 potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock 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.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground–water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. Low–chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. 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 drift.

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.

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landfill. An area where waste products of human habitation are disposed. These products can be

above or below natural ground level.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Limestone. A sedimentary rock composed of calcium carbonate. There are many impure varieties.

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.

Lithic contact. A boundary between soil and continuous, coherent underlying material. The underlying material must be sufficiently coherent to make hand digging with a spade impractical.

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.

Longshore bar. A narrow, elongate, coarse textured ridge that once rose near to, or barely above, a pluvial or glacial lake and extended generally parallel to the shore but was separated from it by an intervening trough or lagoon; both the bar and lagoon are now relict features.

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.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Marsh. A water–saturated, very poorly drained area, intermittently or permanently covered by water. Marsh areas dominantly support sedges, cattails, and rushes. Not used in map units where poorly drained or very poorly drained soils are the named components. Typically 0.5 acre to 2 acres in size.

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.)

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

Mulch. Any material, such as straw, sawdust, leaves, plastic film, or loose soil, that is spread upon the surface of the soil to protect the soil and plant roots from the effects of raindrops, soil crusting, freezing, and evaporation.

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 10YR, value 6, and chroma 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.

No-till farming. A method of planting crops that involves no seedbed preparation other than opening the soil for the purpose of placing the seed at the intended depth, which typically involves opening a small slit or punching a hole into the soil. There is usually no cultivation during crop production. Chemical weed control is normally used.

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. Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

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.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Paralithic contact. Similar to a lithic contact, except that the underlying material is softer and can be dug with difficulty with a spade.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Pebbles. Rounded or partially rounded rock or mineral fragments between 2 and 75 millimeters in diameter.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Perennial water. A natural or manmade lake, pool, pit, or stream course that contains water for most of the year.

Permafrost. Layers of soil, or even bedrock, occurring in arctic or subarctic regions, in which a temperature below freezing has existed continuously for a long time.

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
Very slow	0.0015 to 0.06
Slow	0.06 to 0.2
Moderately slow	0.2 to 0.6
Moderate	0.6 inch to 2.0
Moderately rapid	2.0 to 6.0
Rapid	6.0 to 20
Very rapid	more than 20

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in 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. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Quarry. An open excavation from which bedrock has been removed.

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

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low–chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha, alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Restricted permeability (in tables). The slow movement of water through the soil adversely affects the specified use.

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 geomorphic component of flat plains (e.g., lake plain, low coastal plain, low–gradient till plain) consisting of a slightly elevated but low, broad area with slow slope gradients (*i.e., slopes of 1 to 3 percent); typically a microfeature but can be fairly extensive. Commonly, soils on a rise are better drained than those in the surrounding flat area.*

Riser. The sloping surface of a series of natural steplike landforms, as those of successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rock outcrop. Exposures of base bedrock, typically hard rock, at the surface of the earth.

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 groundwater runoff or seepage flow from groundwater.

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.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind–deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Short steep slope. A narrow area in which the soil has slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.

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.

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.

Slick spot. A small area of soil having a puddled, crusted, or smooth surface and an excess of exchangeable sodium. The soil generally is silty or clayey, is slippery when wet, and is low in productivity.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on outwash, or on a glaciolacustrine deposit.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

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.

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 grained* (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 loss in volume that occurs in muck

soils when they oxidize or dry.

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.

Swamp. An area that is saturated with water throughout much of the year but in which the surface of the soil is generally not deeply submerged. Swamp areas dominantly support trees and shrubs.

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 drift that generally marks the termination of important glacial advances.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Unsorted, nonstratified 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 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.

Tread. The flat or gently sloping surface of natural steplike landforms, commonly one of a series, such as successive stream terraces.

Typical pedon. The site of the pedon described as

typical for the series in the survey area.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Variant, soil. A soil having properties sufficiently different from those of other known soils to suggest establishing a new soil series, but a soil of such limited known area that creation of a new series was not believed to be justified.

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.

Water table. The upper surface of ground water, or the level below which the soil is saturated with water.

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.

Wet spot. An area of soil that is somewhat poorly drained to very poorly drained and that is at least two drainage classes wetter than the named soils in the surrounding map unit.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

TABLE 1.--TEMPERATURE AND PRECIPITATION

(Recorded in the period 1971-2000 at MANSFIELD WSO AP, OH4865)

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-----	32.5	17.7	25.1	61	-13	17	2.64	1.41	3.80	6	13.1
February----	36.0	20.4	28.2	65	-7	27	2.18	1.24	3.09	5	9.9
March-------	46.8	28.6	37.7	76	3	111	3.36	2.18	4.39	7	6.8
April-------	58.5	38.0	48.2	82	18	279	4.17	2.49	5.86	8	2.1
May---------	69.4	48.7	59.0	86	31	590	4.42	2.93	5.72	8	0.0
June--------	77.9	57.7	67.8	93	40	834	4.52	2.25	6.76	7	0.0
July--------	81.9	62.0	72.0	94	48	991	4.22	2.31	5.76	6	0.0
August------	79.8	60.5	70.2	91	46	935	4.60	2.76	6.51	7	0.0
September---	73.1	53.5	63.3	89	35	699	3.44	1.75	4.99	6	0.0
October-----	61.7	42.6	52.2	81	24	386	2.68	1.52	3.67	6	0.6
November----	48.7	33.5	41.1	72	14	141	3.76	1.77	5.32	7	2.7
December----	37.2	23.3	30.3	63	-3	35	3.27	2.04	4.30	7	9.1
Yearly:											
Average---	58.6	40.5	49.6	---	---	---	---	---	---	---	---
Extreme---	101	-22	---	95	-15	---	---	---	---	---	---
Total-----	---	---	---	---	---	5045	43.26	36.24	50.01	80	44.3

* 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 MANSFIELD WSO AP, OH4865)

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--	April 17	April 27	May 8
2 year in 10 later than--	April 12	April 23	May 4
5 year in 10 later than--	April 3	April 16	April 27
First freezing temperature in fall:			
1 yr in 10 earlier than--	October 28	October 16	October 1
2 yr in 10 earlier than--	November 2	October 20	October 7
5 yr in 10 earlier than--	November 11	October 29	October 17

TABLE 3.--GROWING SEASON

(Recorded for the period 1971-2000 at MANSFIELD WSO AP, OH4865)

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	200	176	152
8 years in 10	207	182	159
5 years in 10	221	195	172
2 years in 10	234	207	186
1 year in 10	242	214	193

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE MAP UNITS

Map symbol	Soil name	Acres	Percent
AcD2	Alexandria silty clay loam, 12 to 18 percent slopes, eroded	---	*
AdB	Alexandria silt loam, 2 to 6 percent slopes	361	0.1
AdC	Alexandria silt loam, 6 to 12 percent slopes	494	0.2
AdC2	Alexandria silt loam, 6 to 12 percent slopes, moderately eroded	880	0.3
AdD	Alexandria silt loam, 12 to 18 percent slopes	1,556	0.5
AdD2	Alexandria silt loam, 12 to 18 percent slopes, moderately eroded	2,084	0.7
AdE	Alexandria silt loam, 18 to 25 percent slopes	640	0.2
AdE2	Alexandria silt loam, 18 to 25 percent slopes, moderately eroded	182	*
AdF	Alexandria silt loam, 25 to 40 percent slopes	233	*
AeD3	Alexandria silty clay loam, 12 to 18 percent slopes, severely eroded	147	*
Ag	Algiers silt loam	361	0.1
BeB	Belmore loam, 2 to 6 percent slopes	854	0.3
BeC	Belmore loam, 6 to 12 percent slopes	633	0.2
BeD	Belmore loam, 12 to 18 percent slopes	269	*
BnA	Bennington silt loam, 0 to 2 percent slopes	13,167	4.1
BnB	Bennington silt loam, 2 to 6 percent slopes	37,132	11.6
BnB2	Bennington silt loam, 2 to 6 percent slopes, moderately eroded	2,091	0.7
BpB	Bennington-Fitchville silt loams, 2 to 6 percent slopes	328	0.1
BrB	Berks channery silt loam, 2 to 6 percent slopes	406	0.1
BrC	Berks channery silt loam, 6 to 12 percent slopes	325	0.1
BrD	Berks channery silt loam, 12 to 18 percent slopes	932	0.3
BsF	Berks-Rock outcrop complex, steep	231	*
BtA	Bogart loam, 0 to 2 percent slopes	251	*
BtB	Bogart loam, 2 to 6 percent slopes	673	0.2
BvA	Bogart silt loam, 0 to 2 percent slopes	825	0.3
BvB	Bogart silt loam, 2 to 6 percent slopes	1,347	0.4
BwC	Brownsville channery silt loam, 6 to 12 percent slopes	---	*
BwD	Brownsville channery silt loam, 12 to 18 percent slopes	---	*
BxE	Brownsville-Westmoreland complex, 18 to 25 percent slopes	---	*
CdB	Canfield silt loam, 2 to 6 percent slopes	20,473	6.4
CdB2	Canfield silt loam, 2 to 6 percent slopes, moderately eroded	824	0.3
CdC	Canfield silt loam, 6 to 12 percent slopes	1,567	0.5
CdC2	Canfield silt loam, 6 to 12 percent slopes, moderately eroded	971	0.3
CgB	Cardington silt loam, 2 to 6 percent slopes	20,084	6.3
CgB2	Cardington silt loam, 2 to 6 percent slopes, moderately eroded	5,108	1.6
CgC	Cardington silt loam, 6 to 12 percent slopes	4,203	1.3
CgC2	Cardington silt loam, 6 to 12 percent slopes, moderately eroded	4,693	1.5
ChC3	Cardington silty clay loam, 6 to 12 percent slopes, severely eroded	299	*
Ck	Carlisle muck	1,412	0.4
CmB	Chili silt loam, 2 to 6 percent slopes	---	*
CnB	Chili loam, 2 to 6 percent slopes	2,478	0.8
CnC	Chili loam, 6 to 12 percent slopes	2,198	0.7
CoD	Chili and Conotton soils, 12 to 18 percent slopes	1,427	0.4
CoD3	Chili and Conotton soils, 12 to 18 percent slopes, severely eroded	138	*
CoE	Chili and Conotton soils, 18 to 25 percent slopes	400	0.1
CoF	Chili and Conotton soils, 25 to 40 percent slopes	104	*
Cp	Condit silty clay loam	---	*
Cr	Condit silt loam	5,158	1.6
Cs	Condit-Bennington silt loams	---	*
CtC	Conotton gravelly loam, 2 to 12 percent slopes	247	*
CvC	Coshocton loam, 6 to 15 percent slopes	---	*
Cz	Cut and fill land	5,434	1.7
DmB	Digby loam, 1 to 4 percent slopes	189	*
FbA	Fitchville silt loam, 1 to 4 percent slopes	---	*
FcA	Fitchville silt loam, 0 to 2 percent slopes	2,565	0.8
FcB	Fitchville silt loam, 2 to 6 percent slopes	802	0.3
FdA	Fitchville-Bennington silt loams, 0 to 2 percent slopes	1,243	0.4
FgA	Fitchville silt loam, gravelly subsoil variant, 0 to 2 percent slopes	759	0.2
FgB	Fitchville silt loam, gravelly subsoil variant, 2 to 6 percent slopes	295	*
Fr	Frenchtown silt loam	583	0.2
GdB	Gilpin silt loam, 2 to 6 percent slopes	---	*
GdC	Gilpin silt loam, 6 to 12 percent slopes	---	*
GfA	Glenford silt loam, 0 to 2 percent slopes	447	0.1
GfB	Glenford silt loam, 2 to 6 percent slopes	2,012	0.6
GfC	Glenford silt loam, 6 to 12 percent slopes	245	*
GrB	Gresham silt loam, 2 to 6 percent slopes	111	*
HaB	Haney loam, 2 to 6 percent slopes	658	0.2
HfB	Hanover silt loam, 2 to 6 percent slopes	1,729	0.5
HfC	Hanover silt loam, 6 to 12 percent slopes	2,023	0.6
HfC2	Hanover silt loam, 6 to 12 percent slopes, moderately eroded	629	0.2
HfC3	Hanover silt loam, 6 to 12 percent slopes, severely eroded	173	*
HfD	Hanover silt loam, 12 to 18 percent slopes	1,048	0.3
HfD2	Hanover silt loam, 12 to 18 percent slopes, moderately eroded	403	0.1
HfE	Hanover silt loam, 18 to 25 percent slopes	173	*
Ho	Holly silt loam	2,566	0.8

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE MAP UNITS--Continued

Map symbol	Soil name	Acres	Percent
AcD2	Alexandria silty clay loam, 12 to 18 percent slopes, eroded	---	*
AdB	Alexandria silt loam, 2 to 6 percent slopes	361	0.1
AdC	Alexandria silt loam, 6 to 12 percent slopes	494	0.2
AdC2	Alexandria silt loam, 6 to 12 percent slopes, moderately eroded	880	0.3
AdD	Alexandria silt loam, 12 to 18 percent slopes	1,556	0.5
AdD2	Alexandria silt loam, 12 to 18 percent slopes, moderately eroded	2,084	0.7
AdE	Alexandria silt loam, 18 to 25 percent slopes	640	0.2
AdE2	Alexandria silt loam, 18 to 25 percent slopes, moderately eroded	182	*
AdF	Alexandria silt loam, 25 to 40 percent slopes	233	*
AeD3	Alexandria silty clay loam, 12 to 18 percent slopes, severely eroded	147	*
Ag	Algiers silt loam	361	0.1
BeB	Belmore loam, 2 to 6 percent slopes	854	0.3
BeC	Belmore loam, 6 to 12 percent slopes	633	0.2
BeD	Belmore loam, 12 to 18 percent slopes	269	*
BnA	Bennington silt loam, 0 to 2 percent slopes	13,167	4.1
BnB	Bennington silt loam, 2 to 6 percent slopes	37,132	11.6
BnB2	Bennington silt loam, 2 to 6 percent slopes, moderately eroded	2,091	0.7
BpB	Bennington-Fitchville silt loams, 2 to 6 percent slopes	328	0.1
BrB	Berks channery silt loam, 2 to 6 percent slopes	406	0.1
BrC	Berks channery silt loam, 6 to 12 percent slopes	325	0.1
BrD	Berks channery silt loam, 12 to 18 percent slopes	932	0.3
BsF	Berks-Rock outcrop complex, steep	231	*
BtA	Bogart loam, 0 to 2 percent slopes	251	*
BtB	Bogart loam, 2 to 6 percent slopes	673	0.2
BvA	Bogart silt loam, 0 to 2 percent slopes	825	0.3
BvB	Bogart silt loam, 2 to 6 percent slopes	1,347	0.4
BwC	Brownsville channery silt loam, 6 to 12 percent slopes	---	*
BwD	Brownsville channery silt loam, 12 to 18 percent slopes	---	*
BxE	Brownsville-Westmoreland complex, 18 to 25 percent slopes	---	*
CdB	Canfield silt loam, 2 to 6 percent slopes	20,473	6.4
CdB2	Canfield silt loam, 2 to 6 percent slopes, moderately eroded	824	0.3
CdC	Canfield silt loam, 6 to 12 percent slopes	1,567	0.5
CdC2	Canfield silt loam, 6 to 12 percent slopes, moderately eroded	971	0.3
CgB	Cardington silt loam, 2 to 6 percent slopes	20,084	6.3
CgB2	Cardington silt loam, 2 to 6 percent slopes, moderately eroded	5,108	1.6
CgC	Cardington silt loam, 6 to 12 percent slopes	4,203	1.3
CgC2	Cardington silt loam, 6 to 12 percent slopes, moderately eroded	4,693	1.5
ChC3	Cardington silty clay loam, 6 to 12 percent slopes, severely eroded	299	*
Ck	Carlisle muck	1,412	0.4
CmB	Chili silt loam, 2 to 6 percent slopes	---	*
CnB	Chili loam, 2 to 6 percent slopes	2,478	0.8
CnC	Chili loam, 6 to 12 percent slopes	2,198	0.7
CoD	Chili and Conotton soils, 12 to 18 percent slopes	1,427	0.4
CoD3	Chili and Conotton soils, 12 to 18 percent slopes, severely eroded	138	*
CoE	Chili and Conotton soils, 18 to 25 percent slopes	400	0.1
CoF	Chili and Conotton soils, 25 to 40 percent slopes	104	*
Cp	Condit silty clay loam	---	*
Cr	Condit silt loam	5,158	1.6
Cs	Condit-Bennington silt loams	---	*
CtC	Conotton gravelly loam, 2 to 12 percent slopes	247	*
CvC	Coshocton loam, 6 to 15 percent slopes	---	*
DmB	Digby loam, 1 to 4 percent slopes	189	*
FbA	Fitchville silt loam, 1 to 4 percent slopes	---	*
FcA	Fitchville silt loam, 0 to 2 percent slopes	2,565	0.8
FcB	Fitchville silt loam, 2 to 6 percent slopes	802	0.3
FdA	Fitchville-Bennington silt loams, 0 to 2 percent slopes	1,243	0.4
FgA	Fitchville silt loam, gravelly subsoil variant, 0 to 2 percent slopes	759	0.2
FgB	Fitchville silt loam, gravelly subsoil variant, 2 to 6 percent slopes	295	*
Fr	Frenchtown silt loam	583	0.2
GdB	Gilpin silt loam, 2 to 6 percent slopes	---	*
GdC	Gilpin silt loam, 6 to 12 percent slopes	---	*
GfA	Glenford silt loam, 0 to 2 percent slopes	447	0.1
GfB	Glenford silt loam, 2 to 6 percent slopes	2,012	0.6
GfC	Glenford silt loam, 6 to 12 percent slopes	245	*
GrB	Gresham silt loam, 2 to 6 percent slopes	111	*
HaB	Haney loam, 2 to 6 percent slopes	658	0.2
HfB	Hanover silt loam, 2 to 6 percent slopes	1,729	0.5
HfC	Hanover silt loam, 6 to 12 percent slopes	2,023	0.6
HfC2	Hanover silt loam, 6 to 12 percent slopes, moderately eroded	629	0.2
HfC3	Hanover silt loam, 6 to 12 percent slopes, severely eroded	173	*
HfD	Hanover silt loam, 12 to 18 percent slopes	1,048	0.3
HfD2	Hanover silt loam, 12 to 18 percent slopes, moderately eroded	403	0.1
HfE	Hanover silt loam, 18 to 25 percent slopes	173	*
Ho	Holly silt loam	2,566	0.8
HpB	Homewood silt loam, 2 to 6 percent slopes	---	*

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE MAP UNITS--Continued

Map symbol	Soil name	Acres	Percent
HpC	Homewood silt loam, 6 to 12 percent slopes	---	*
HpD2	Homewood silt loam, 12 to 18 percent slopes, eroded	---	*
HpE2	Homewood silt loam, 18 to 25 percent slopes, eroded	---	*
JtA	Jimtown loam, 0 to 2 percent slopes	---	*
KbA	Kibbie loam, 0 to 2 percent slopes	---	*
La	Landes fine sandy loam	61	*
LfB	Latham silt loam, 2 to 6 percent slopes	406	0.1
LfC	Latham silt loam, 6 to 12 percent slopes	301	*
Lg	Lenawee silty clay loam	---	*
Lk	Linwood muck	527	0.2
Lo	Lobdell silt loam	4,954	1.5
LrB	Lordstown silt loam, 2 to 6 percent slopes	1,259	0.4
LrC	Lordstown silt loam, 6 to 12 percent slopes	2,035	0.6
LrD	Lordstown silt loam, 12 to 18 percent slopes	4,945	1.5
LrE	Lordstown silt loam, 18 to 25 percent slopes	---	*
LrF	Lordstown silt loam, 25 to 40 percent slopes	---	*
LtE	Lordstown and Loudonville silt loams, 18 to 25 percent slopes	4,738	1.5
LtF	Lordstown and Loudonville silt loams, 25 to 40 percent slopes	876	0.3
LvB	Loudonville silt loam, 2 to 6 percent slopes	3,373	1.1
LvC	Loudonville silt loam, 6 to 12 percent slopes	6,002	1.9
LvD	Loudonville silt loam, 12 to 18 percent slopes	6,122	1.9
Ly	Luray silty clay loam	6,908	2.2
LzB	Lykens silt loam, 2 to 6 percent slopes	---	*
MeB	Mentor silt loam, 2 to 6 percent slopes	267	*
MeC	Mentor silt loam, 6 to 12 percent slopes	198	*
Op	Olmsted silty clay loam	---	*
Or	Orrville loam, moderately shallow variant	132	*
Pa	Pewamo silt loam	809	0.3
Pc	Pewamo silt loam, overwash	364	0.1
Pg	Pits, gravel	422	0.1
Pm	Pewamo silty clay loam	13,883	4.3
ReA	Ravenna silt loam, 0 to 2 percent slopes	847	0.3
ReB	Ravenna silt loam, 2 to 6 percent slopes	1,754	0.5
RsB	Rittman silt loam, 2 to 6 percent slopes	13,917	4.3
RsB2	Rittman silt loam, 2 to 6 percent slopes, moderately eroded	1,170	0.4
RsC	Rittman silt loam, 6 to 12 percent slopes	2,972	0.9
RsC2	Rittman silt loam, 6 to 12 percent slopes, moderately eroded	2,846	0.9
RsD	Rittman silt loam, 12 to 18 percent slopes	617	0.2
RsD2	Rittman silt loam, 12 to 18 percent slopes, moderately eroded	776	0.2
RtC3	Rittman silty clay loam, 6 to 12 percent slopes, severely eroded	159	*
RtD3	Rittman silty clay loam, 12 to 18 percent slopes, severely eroded	103	*
SaC	Schaffenaker loamy sand, 2 to 12 percent slopes	392	0.1
SaD	Schaffenaker loamy sand, 12 to 18 percent slopes	802	0.3
SaE	Schaffenaker loamy sand, 18 to 40 percent slopes	1,026	0.3
SbE	Schaffenaker loamy sand, 10 to 40 percent slopes	---	*
Se	Sebring silt loam	1,967	0.6
Sh	Shoals silt loam	10,706	3.3
Sk	Shoals loam, coarse subsoil variant	968	0.3
SmA	Sleeth silt loam, loamy substratum, 0 to 3 percent slopes	---	*
So	Sloan silty clay loam	1,287	0.4
TmA	Tiro silt loam, 0 to 2 percent slopes	568	0.2
TmB	Tiro silt loam, 2 to 6 percent slopes	708	0.2
TvB	Titusville silt loam, 2 to 6 percent slopes	2,194	0.7
TvC	Titusville silt loam, 6 to 12 percent slopes	625	0.2
Uc	Udorthents	---	*
Ud	Udorthents, loamy	---	*
Ur	Urban land	1,420	0.4
W	Water	1,522	0.5
WaA	Wadsworth silt loam, 0 to 2 percent slopes	1,984	0.6
WaB	Wadsworth silt loam, 2 to 6 percent slopes	3,509	1.1
Wc	Wallkill silt loam	69	*
WeD	Westmoreland silt loam, 12 to 18 percent slopes	---	*
WhA	Wheeling silt loam, 0 to 2 percent slopes	755	0.2
WhB	Wheeling silt loam, 2 to 6 percent slopes	3,008	0.9
WhC	Wheeling silt loam, 6 to 12 percent slopes	775	0.2
WmD	Wheeling and Mentor silt loams, 12 to 18 percent slopes	301	*
WsB	Wooster silt loam, 2 to 6 percent slopes	8,485	2.6
WsB2	Wooster silt loam, 2 to 6 percent slopes, moderately eroded	806	0.3
WsC	Wooster silt loam, 6 to 12 percent slopes	9,298	2.9
WsC2	Wooster silt loam, 6 to 12 percent slopes, moderately eroded	6,375	2.0
WsD	Wooster silt loam, 12 to 18 percent slopes	5,836	1.8
WsD2	Wooster silt loam, 12 to 18 percent slopes, moderately eroded	2,836	0.9
WsD3	Wooster silt loam, 12 to 18 percent slopes, severely eroded	330	0.1
WsE	Wooster silt loam, 18 to 25 percent slopes	2,200	0.7
WsE2	Wooster silt loam, 18 to 25 percent slopes, eroded	---	*

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE MAP UNITS--Continued

Map symbol	Soil name	Acres	Percent
WsF	Wooster silt loam, 25 to 40 percent slopes	593	0.2
WtB	Wooster-Chili soils, 2 to 6 percent slopes	236	*
WtC	Wooster-Chili soils, 6 to 12 percent slopes	309	*
WvE3	Wooster silt loam, 18 to 40 percent slopes, severely eroded	174	*
	Total	312,646	97.6

* Less than 0.1 percent.

TABLE 5.--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. See text on page 223 for additional information.)

Map symbol	Soil name
AdB	Alexandria silt loam, 2 to 6 percent slopes
Ag	Algiers silt loam (Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season)
BeB	Belmore loam, 2 to 6 percent slopes
BnA	Bennington silt loam, 0 to 2 percent slopes (Prime farmland if drained)
BnB	Bennington silt loam, 2 to 6 percent slopes (Prime farmland if drained)
BnB2	Bennington silt loam, 2 to 6 percent slopes, moderately eroded (Prime farmland if drained)
BpB	Bennington-Fitchville silt loams, 2 to 6 percent slopes (Prime farmland if drained)
BtA	Bogart loam, 0 to 2 percent slopes
BtB	Bogart loam, 2 to 6 percent slopes
BvA	Bogart silt loam, 0 to 2 percent slopes
BvB	Bogart silt loam, 2 to 6 percent slopes
CdB	Canfield silt loam, 2 to 6 percent slopes
CdB2	Canfield silt loam, 2 to 6 percent slopes, moderately eroded
CgB	Cardington silt loam, 2 to 6 percent slopes
CgB2	Cardington silt loam, 2 to 6 percent slopes, moderately eroded
CmB	Chili silt loam, 2 to 6 percent slopes
CnB	Chili loam, 2 to 6 percent slopes
Cp	Condit silty clay loam (Prime farmland if drained)
Cr	Condit silt loam (Prime farmland if drained)
Cs	Condit-Bennington silt loams (Prime farmland if drained)
DmB	Digby loam, 1 to 4 percent slopes (Prime farmland if drained)
FbA	Fitchville silt loam, 1 to 4 percent slopes (Prime farmland if drained)
FcA	Fitchville silt loam, 0 to 2 percent slopes (Prime farmland if drained)
FcB	Fitchville silt loam, 2 to 6 percent slopes (Prime farmland if drained)
FdA	Fitchville-Bennington silt loams, 0 to 2 percent slopes (Prime farmland if drained)
FgA	Fitchville silt loam, gravelly subsoil variant, 0 to 2 percent slopes (Prime farmland if drained)
FgB	Fitchville silt loam, gravelly subsoil variant, 2 to 6 percent slopes (Prime farmland if drained)
Fr	Frenchtown silt loam (Prime farmland if drained)
GdB	Gilpin silt loam, 2 to 6 percent slopes
GfA	Glenford silt loam, 0 to 2 percent slopes
GfB	Glenford silt loam, 2 to 6 percent slopes
GrB	Gresham silt loam, 2 to 6 percent slopes (Prime farmland if drained)
HaB	Haney loam, 2 to 6 percent slopes
HfB	Hanover silt loam, 2 to 6 percent slopes
Ho	Holly silt loam (Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season)
HpB	Homewood silt loam, 2 to 6 percent slopes
JtA	Jimtown loam, 0 to 2 percent slopes (Prime farmland if drained)
KbA	Kibbie loam, 0 to 2 percent slopes (Prime farmland if drained)
La	Landes fine sandy loam
LfB	Latham silt loam, 2 to 6 percent slopes
Lg	Lenawee silty clay loam (Prime farmland if drained)
Lo	Lobdell silt loam
LrB	Lordstown silt loam, 2 to 6 percent slopes
LvB	Loudonville silt loam, 2 to 6 percent slopes
Ly	Luray silty clay loam (Prime farmland if drained)
LzB	Lykens silt loam, 2 to 6 percent slopes
MeB	Mentor silt loam, 2 to 6 percent slopes
Op	Olmsted silty clay loam (Prime farmland if drained)
Or	Orrville loam, moderately shallow variant (Prime farmland if drained)
Pa	Pewamo silt loam (Prime farmland if drained)
Pc	Pewamo silt loam, overwash (Prime farmland if drained)
Pm	Pewamo silty clay loam (Prime farmland if drained)
ReA	Ravenna silt loam, 0 to 2 percent slopes (Prime farmland if drained)
ReB	Ravenna silt loam, 2 to 6 percent slopes (Prime farmland if drained)
RsB	Rittman silt loam, 2 to 6 percent slopes
RsB2	Rittman silt loam, 2 to 6 percent slopes, moderately eroded
Se	Sebring silt loam (Prime farmland if drained)

TABLE 5.--PRIME FARMLAND--Continued

Map symbol	Soil name
Sh	Shoals silt loam (Prime farmland if drained)
Sk	Shoals loam, coarse subsoil variant (Prime farmland if drained)
SmA	Sleeth silt loam, loamy substratum, 0 to 3 percent slopes (Prime farmland if drained)
So	Sloan silty clay loam (Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season)
TmA	Tiro silt loam, 0 to 2 percent slopes (Prime farmland if drained)
TmB	Tiro silt loam, 2 to 6 percent slopes (Prime farmland if drained)
TvB	Titusville silt loam, 2 to 6 percent slopes
WaA	Wadsworth silt loam, 0 to 2 percent slopes (Prime farmland if drained)
WaB	Wadsworth silt loam, 2 to 6 percent slopes (Prime farmland if drained)
WhA	Wheeling silt loam, 0 to 2 percent slopes
WhB	Wheeling silt loam, 2 to 6 percent slopes
WsB	Wooster silt loam, 2 to 6 percent slopes
WsB2	Wooster silt loam, 2 to 6 percent slopes, moderately eroded
WtB	Wooster-Chili soils, 2 to 6 percent slopes

TABLE 6.--HYDRIC SOILS LIST

(See text on page 225 for additional information)

Map symbol	Soil name
Ck	Carlisle muck
Cp	Condit silty clay loam
Cr	Condit silt loam
Cs	Condit-Bennington silt loams
Fr	Frenchtown silt loam
Ho	Holly silt loam
Lg	Lenawee silty clay loam
Lk	Linwood muck
Ly	Luray silty clay loam
Op	Olmsted silty clay loam
Pa	Pewamo silt loam
Pc	Pewamo silt loam, overwash
Pm	Pewamo silty clay loam
Se	Sebring silt loam
So	Sloan silty clay loam
Wc	Wallkill silt loam

TABLE 7.--NON-HYDRIC MAP UNITS WITH HYDRIC COMPONENTS

(See text on page 225 for additional information)

Map symbol and map unit name	Hydric Component	Landform
AcD2: Alexandria silty clay loam, 12 to 18 percent slopes, eroded	Condit	depression
AdB: Alexandria silt loam, 2 to 6 percent slopes	Pewamo	depression
AdC: Alexandria silt loam, 6 to 12 percent slopes	soils similar to Pewamo	drainageway
AdC2: Alexandria silt loam, 6 to 12 percent slopes, moderately eroded	soils similar to Pewamo	drainageway
AdD: Alexandria silt loam, 12 to 18 percent slopes	soils similar to Pewamo	drainageway
AdD2: Alexandria silt loam, 12 to 18 percent slopes, moderately eroded	soils similar to Pewamo	drainageway
AdE: Alexandria silt loam, 18 to 25 percent slopes	soils similar to Holly	drainageway
	soils similar to Pewamo	drainageway
AdF: Alexandria silt loam, 25 to 40 percent slopes	soils similar to Holly	drainageway
	soils similar to Pewamo	drainageway
AeD3: Alexandria silty clay loam, 12 to 18 percent slopes, severely eroded	soils similar to Pewamo	drainageway
Ag: Algiers silt loam	Sloan	abandoned channel depression
	Holly	abandoned channel depression
BnA: Bennington silt loam, 0 to 2 percent slopes	Pewamo	drainageway depression
	Condit	drainageway depression

TABLE 7.--NON-HYDRIC MAPUNITS WITH HYDRIC COMPONENTS--Continued

Map symbol and map unit name	Hydric Component	Landform
BnB:		
Bennington silt loam, 2 to 6 percent slopes		
	Pewamo	drainageway
		depression
	Condit	drainageway
BnB2:		
Bennington silt loam, 2 to 6 percent slopes, moderately eroded		
	Pewamo	drainageway
		depression
	Condit	drainageway
		depression
BpB:		
Bennington-Fitchville silt loams, 2 to 6 percent slopes		
	Luray	drainageway
		depression
	Sebring	drainageway
		depression
CdB:		
Canfield silt loam, 2 to 6 percent slopes		
	Frenchtown	drainageway
		depression
CgC:		
Cardington silt loam, 6 to 12 percent slopes		
	soils similar to Holly	drainageway
	soils similar to Pewamo	drainageway
CgC2:		
Cardington silt loam, 6 to 12 percent slopes, moderately eroded		
	soils similar to Pewamo	drainageway
ChC3:		
Cardington silty clay loam, 6 to 12 percent slopes, severely eroded		
	soils similar to Pewamo	drainageway
DmB:		
Digby loam, 1 to 4 percent slopes		
	poorly drained, dark colored soils	drainageway
		depression
FcA:		
Fitchville silt loam, 0 to 2 percent slopes		
	Sebring	drainageway
		depression
	Luray	drainageway
		depression
FcB:		
Fitchville silt loam, 2 to 6 percent slopes		
	Sebring	drainageway
		depression
FdA:		
Fitchville-Bennington silt loams, 0 to 2 percent slopes		
	Luray	depression
	Sebring	depression

TABLE 7.--NON-HYDRIC MAPUNITS WITH HYDRIC COMPONENTS--Continued

Map symbol and map unit name	Hydric Component	Landform
FgA:		
Fitchville silt loam, gravelly subsoil variant, 0 to 2 percent slopes		
	grayer subsoil	depression
FgB:		
Fitchville silt loam, gravelly subsoil variant, 2 to 6 percent slopes		
	Luray	depression
GfB:		
Glenford silt loam, 2 to 6 percent slopes		
	Pewamo	drainageway
		depression
GfC:		
Glenford silt loam, 6 to 12 percent slopes		
	Pewamo	drainageway
GrB:		
Gresham silt loam, 2 to 6 percent slopes		
	wetter soils in drainageways and around springs	drainageway
HfE:		
Hanover silt loam, 18 to 25 percent slopes		
	soils similar to Holly	drainageway
JtA:		
Jimtown loam, 0 to 2 percent slopes		
	Olmsted	drainageway
		depression
	Colwood	drainageway
		depression
	Marengo	drainageway
		depression
KbA:		
Kibbie loam, 0 to 2 percent slopes		
	Colwood	flat
	Lenawee	flat
La:		
Landes fine sandy loam		
	Sloan	abandoned channel
Lo:		
Lobdell silt loam		
	Holly	abandoned channel
		depression
MeC:		
Mentor silt loam, 6 to 12 percent slopes		
	Sebring	drainageway
	Holly	drainageway
ReA:		
Ravenna silt loam, 0 to 2 percent slopes		
	Frenchtown	depression
ReB:		
Ravenna silt loam, 2 to 6 percent slopes		
	Frenchtown	depression
RsB:		
Rittman silt loam, 2 to 6 percent slopes		
	wetter soils	drainageway

TABLE 7.--NON-HYDRIC MAPUNITS WITH HYDRIC COMPONENTS--Continued

Map symbol and map unit name	Hydric Component	Landform
RsC:		
Rittman silt loam, 6 to 12 percent slopes		
	soils similar to Holly	drainageway
	soils similar to Frenchtown	drainageway
RsC2:		
Rittman silt loam, 6 to 12 percent slopes, moderately eroded		
	soils similar to Holly	drainageway
	soils similar to Frenchtown	drainageway
RsD:		
Rittman silt loam, 12 to 18 percent slopes		
	soils similar to Holly	drainageway
	soils similar to Frenchtown	drainageway
RsD2:		
Rittman silt loam, 12 to 18 percent slopes, moderately eroded		
	soils similar to Frenchtown	drainageway
	soils similar to Pewamo	drainageway
RtC3:		
Rittman silty clay loam, 6 to 12 percent slopes, severely eroded		
	soils similar to Holly	drainageway
	soils similar to Frenchtown	drainageway
RtD3:		
Rittman silty clay loam, 12 to 18 percent slopes, severely eroded		
	soils similar to Frenchtown	drainageway
	soils similar to Pewamo	drainageway
Sh:		
Shoals silt loam		
	Holly	abandoned channel depression
SmA:		
Sleeth silt loam, loamy substratum, 0 to 3 percent slopes		
	Millgrove	depression
TmA:		
Tiro silt loam, 0 to 2 percent slopes		
	Sebring	drainageway depression
	Luray	drainageway depression

TABLE 7.--NON-HYDRIC MAPUNITS WITH HYDRIC COMPONENTS--Continued

Map symbol and map unit name	Hydric Component	Landform
TmB:		
Tiro silt loam, 2 to 6 percent slopes		
	Sebring	depression
	Luray	depression
WaA:		
Wadsworth silt loam, 0 to 2 percent slopes		
	Frenchtown	depression
WaB:		
Wadsworth silt loam, 2 to 6 percent slopes		
	ponded areas	depression
	Frenchtown	depression
WsD2:		
Wooster silt loam, 12 to 18 percent slopes, moderately eroded		
	soils similar to Holly	drainageway
	soils similar to Pewamo	drainageway
WsD3:		
Wooster silt loam, 12 to 18 percent slopes, severely eroded		
	soils similar to Holly	drainageway
	soils similar to Pewamo	drainageway
WsE:		
Wooster silt loam, 18 to 25 percent slopes		
	soils similar to Holly	drainageway
WsF:		
Wooster silt loam, 25 to 40 percent slopes		
	soils similar to Holly	drainageway
WvE3:		
Wooster silt loam, 18 to 40 percent slopes, severely eroded		
	soils similar to Holly	drainageway

TABLE 8.--CROPLAND LIMITATIONS AND HAZARDS

(See text on page 229 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
AcD2:	
Alexandria	Part of the surface layer removed by erosion, surface compaction, fair tilth, surface crusting, easily eroded, erosion hazard.
AdB:	
Alexandria	Surface compaction, frost action, surface crusting, erosion hazard.
AdC:	
Alexandria	Surface compaction, frost action, surface crusting, easily eroded, erosion hazard.
AdC2:	
Alexandria	Part of the surface layer removed by erosion, surface compaction, frost action, fair tilth, surface crusting, easily eroded, erosion hazard.
AdD:	
Alexandria	Surface compaction, frost action, surface crusting, easily eroded, erosion hazard.
AdD2:	
Alexandria	Part of the surface layer removed by erosion, surface compaction, frost action, fair tilth, surface crusting, easily eroded, erosion hazard.
AdE:	
Alexandria	Excessive slope, surface compaction, frost action, surface crusting, easily eroded, erosion hazard.
AdE2:	
Alexandria	Part of the surface layer removed by erosion, excessive slope, surface compaction, frost action, fair tilth, surface crusting, easily eroded, erosion hazard.
AeD3:	
Alexandria	Most of the surface layer removed by erosion, surface compaction, poor tilth, frost action, surface crusting, easily eroded, erosion hazard.
Ag:	
Algiers	Frequent flooding, seasonal high water table, surface compaction, moderate potential for ground-water pollution, frost action, surface crusting.
BeB:	
Belmore	High potential for ground-water pollution, erosion hazard.
BeC:	
Belmore	High potential for ground-water pollution, easily eroded, erosion hazard.
BeD:	
Belmore	High potential for ground-water pollution, easily eroded, erosion hazard.
BnA:	
Bennington	Seasonal high water table, surface compaction, frost action, surface crusting.

TABLE 8.--CROPLAND LIMITATIONS AND HAZARDS--Continued

Soil name and map symbol	Cropland limitations and hazards
BnB:	
Bennington	Seasonal high water table, surface compaction, frost action, surface crusting, erosion hazard.
BnB2:	
Bennington	Part of the surface layer removed by erosion, seasonal high water table, surface compaction, frost action, fair tilth, surface crusting, erosion hazard.
BpB:	
Bennington	Seasonal high water table, surface compaction, frost action, surface crusting, erosion hazard.
Fitchville	Seasonal high water table, surface compaction, frost action, surface crusting, erosion hazard.
BrB:	
Berks	Depth to bedrock, high potential for ground-water pollution, erosion hazard, limited available water capacity.
BrC:	
Berks	Depth to bedrock, high potential for ground-water pollution, erosion hazard, limited available water capacity.
BrD:	
Berks	Depth to bedrock, high potential for ground-water pollution, easily eroded, erosion hazard, limited available water capacity.
BtA:	
Bogart	Moderate potential for ground-water pollution.
BtB:	
Bogart	Moderate potential for ground-water pollution, erosion hazard.
BvA:	
Bogart	Surface compaction, moderate potential for ground-water pollution, surface crusting.
BvB:	
Bogart	Surface compaction, moderate potential for ground-water pollution, surface crusting, erosion hazard.
BwC:	
Brownsville	Moderate potential for ground-water pollution, erosion hazard, limited available water capacity.
BwD:	
Brownsville	Moderate potential for ground-water pollution, easily eroded, erosion hazard, limited available water capacity.
BxE:	
Brownsville	Excessive slope, moderate potential for ground-water pollution, easily eroded, erosion hazard, limited available water capacity.
Westmoreland	Excessive slope, surface compaction, surface crusting, easily eroded, erosion hazard.
CdB:	
Canfield	Surface compaction, frost action, surface crusting, erosion hazard, limited available water capacity, root restrictive layer.

TABLE 8.--CROPLAND LIMITATIONS AND HAZARDS--Continued

Soil name and map symbol	Cropland limitations and hazards
CdB2:	
Canfield	Part of the surface layer removed by erosion, surface compaction, frost action, fair tilth, surface crusting, erosion hazard, limited available water capacity, root restrictive layer.
CdC:	
Canfield	Surface compaction, frost action, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
CdC2:	
Canfield	Part of the surface layer removed by erosion, surface compaction, frost action, fair tilth, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
CgB:	
Cardington	Surface compaction, frost action, surface crusting, erosion hazard.
CgB2:	
Cardington	Part of the surface layer removed by erosion, surface compaction, frost action, fair tilth, surface crusting, erosion hazard.
CgC:	
Cardington	Surface compaction, frost action, surface crusting, easily eroded, erosion hazard.
CgC2:	
Cardington	Part of the surface layer removed by erosion, surface compaction, frost action, fair tilth, surface crusting, easily eroded, erosion hazard.
ChC3:	
Cardington	Most of the surface layer removed by erosion, surface compaction, poor tilth, frost action, surface crusting, easily eroded, erosion hazard.
Ck:	
Carlisle	Ponding, moderate potential for ground-water pollution, frost action, subsidence of the muck, very high organic matter content, wind erosion.
CmB:	
Chili	Surface compaction, high potential for ground-water pollution, surface crusting, erosion hazard.
CnB:	
Chili	High potential for ground-water pollution, erosion hazard, limited available water capacity.
CnC:	
Chili	High potential for ground-water pollution, easily eroded, erosion hazard, limited available water capacity.
CoD:	
Chili	High potential for ground-water pollution, easily eroded, erosion hazard, limited available water capacity.
Conotton	High potential for ground-water pollution, easily eroded, erosion hazard, limited available water capacity.

TABLE 8.--CROPLAND LIMITATIONS AND HAZARDS--Continued

Soil name and map symbol	Cropland limitations and hazards
CoD3:	
Chili	Most of the surface layer removed by erosion, high potential for ground-water pollution, poor tilth, easily eroded, erosion hazard, limited available water capacity.
Conotton	Most of the surface layer removed by erosion, high potential for ground-water pollution, poor tilth, easily eroded, erosion hazard, limited available water capacity.
CoE:	
Chili	Excessive slope, high potential for ground-water pollution, easily eroded, erosion hazard, limited available water capacity.
Conotton	Excessive slope, high potential for ground-water pollution, easily eroded, erosion hazard, limited available water capacity.
CoF:	
Chili	Excessive slope, high potential for ground-water pollution, easily eroded, erosion hazard, limited available water capacity.
Conotton	Excessive slope, high potential for ground-water pollution, easily eroded, erosion hazard, limited available water capacity.
Cp:	
Condit	Ponding, surface compaction, moderate potential for ground-water pollution, frost action, fair tilth, surface crusting, high clay content.
Cr:	
Condit	Ponding, surface compaction, moderate potential for ground-water pollution, frost action, surface crusting.
Cs:	
Condit	Ponding, surface compaction, frost action, surface crusting.
Bennington	Seasonal high water table, surface compaction, frost action, surface crusting.
CtC:	
Conotton	High potential for ground-water pollution, erosion hazard, limited available water capacity.
CvC:	
Coshocton	Frost action, easily eroded, erosion hazard.
DmB:	
Digby	Seasonal high water table, high potential for ground-water pollution, frost action, erosion hazard.
FbA:	
Fitchville	Seasonal high water table, surface compaction, frost action, surface crusting.
FcA:	
Fitchville	Seasonal high water table, surface compaction, frost action, surface crusting.
FcB:	
Fitchville	Seasonal high water table, surface compaction, frost action, surface crusting, erosion hazard.

TABLE 8.--CROPLAND LIMITATIONS AND HAZARDS--Continued

Soil name and map symbol	Cropland limitations and hazards
FdA:	
Fitchville	Seasonal high water table, surface compaction, frost action, surface crusting.
Bennington	Seasonal high water table, surface compaction, frost action, surface crusting.
FgA:	
Fitchville Variant	Seasonal high water table, surface compaction, high potential for ground-water pollution, frost action, surface crusting.
FgB:	
Fitchville Variant	Seasonal high water table, surface compaction, high potential for ground-water pollution, frost action, surface crusting, erosion hazard.
Fr:	
Frenchtown	Seasonal high water table, surface compaction, frost action, surface crusting, limited available water capacity, restricted permeability, root restrictive layer.
GdB:	
Gilpin	Surface compaction, depth to bedrock, high potential for ground-water pollution, surface crusting, erosion hazard, limited available water capacity.
GdC:	
Gilpin	Surface compaction, depth to bedrock, high potential for ground-water pollution, surface crusting, easily eroded, erosion hazard, limited available water capacity.
GfA:	
Glenford	Surface compaction, frost action, surface crusting.
GfB:	
Glenford	Surface compaction, frost action, surface crusting, erosion hazard.
GfC:	
Glenford	Surface compaction, frost action, surface crusting, easily eroded, erosion hazard.
GrB:	
Gresham	Seasonal high water table, surface compaction, frost action, surface crusting, erosion hazard, limited available water capacity, root restrictive layer.
HaB:	
Haney	High potential for ground-water pollution, erosion hazard.
HfB:	
Hanover	Surface compaction, surface crusting, erosion hazard, limited available water capacity, root restrictive layer.
HfC:	
Hanover	Surface compaction, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
HfC2:	
Hanover	Part of the surface layer removed by erosion, surface compaction, fair tilth, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.

TABLE 8.--CROPLAND LIMITATIONS AND HAZARDS--Continued

Soil name and map symbol	Cropland limitations and hazards
HfC3:	
Hanover	Most of the surface layer removed by erosion, surface compaction, poor tilth, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
HfD:	
Hanover	Surface compaction, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
HfD2:	
Hanover	Part of the surface layer removed by erosion, surface compaction, fair tilth, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
Ho:	
Holly	Frequent flooding, seasonal high water table, surface compaction, moderate potential for ground-water pollution, frost action.
HpB:	
Homewood	Surface compaction, surface crusting, erosion hazard, root restrictive layer.
HpC:	
Homewood	Surface compaction, surface crusting, easily eroded, erosion hazard, root restrictive layer.
HpD2:	
Homewood	Part of the surface layer removed by erosion, surface compaction, fair tilth, surface crusting, easily eroded, erosion hazard, root restrictive layer.
JtA:	
Jimtown	Seasonal high water table, moderate potential for ground-water pollution, frost action.
KbA:	
Kibbie	Seasonal high water table, moderate potential for ground-water pollution, frost action.
La:	
Landes	Occasional flooding, high potential for ground-water pollution, wind erosion, limited available water capacity.
LfB:	
Latham	Surface compaction, depth to bedrock, high potential for ground-water pollution, frost action, surface crusting, erosion hazard, limited available water capacity, restricted permeability.
LfC:	
Latham	Surface compaction, depth to bedrock, high potential for ground-water pollution, frost action, surface crusting, easily eroded, erosion hazard, limited available water capacity, restricted permeability.
Lg:	
Lenawee	Ponding, surface compaction, frost action, fair tilth.
Lk:	
Linwood	Ponding, high potential for ground-water pollution, excessive acidity, frost action, subsidence of the muck, very high organic matter content, wind erosion.

TABLE 8.--CROPLAND LIMITATIONS AND HAZARDS--Continued

Soil name and map symbol	Cropland limitations and hazards
Lo:	
Lobdell	Occasional flooding, surface compaction, moderate potential for ground-water pollution, poor tilth, excessive acidity, surface crusting.
LrB:	
Lordstown	Surface compaction, depth to bedrock, high potential for ground-water pollution, erosion hazard, limited available water capacity.
LrC:	
Lordstown	Surface compaction, depth to bedrock, high potential for ground-water pollution, easily eroded, erosion hazard, limited available water capacity.
LrD:	
Lordstown	Surface compaction, depth to bedrock, high potential for ground-water pollution, easily eroded, erosion hazard, limited available water capacity.
LtE:	
Lordstown	Excessive slope, surface compaction, depth to bedrock, high potential for ground-water pollution, easily eroded, erosion hazard, limited available water capacity.
Loudonville	Excessive slope, surface compaction, depth to bedrock, high potential for ground-water pollution, surface crusting, easily eroded, erosion hazard.
LvB:	
Loudonville	Surface compaction, depth to bedrock, high potential for ground-water pollution, surface crusting, erosion hazard.
LvC:	
Loudonville	Surface compaction, depth to bedrock, high potential for ground-water pollution, surface crusting, easily eroded, erosion hazard.
LvD:	
Loudonville	Surface compaction, depth to bedrock, high potential for ground-water pollution, surface crusting, easily eroded, erosion hazard.
Ly:	
Luray	Ponding, surface compaction, moderate potential for ground-water pollution, frost action, fair tilth, clodding.
LzB:	
Lykens	Surface compaction, frost action, surface crusting, erosion hazard.
MeB:	
Mentor	Surface compaction, surface crusting, erosion hazard.
MeC:	
Mentor	Surface compaction, surface crusting, easily eroded, erosion hazard.
Op:	
Olmsted	Ponding, surface compaction, moderate potential for ground-water pollution, frost action, fair tilth.
Or:	
Orrville Variant	Occasional flooding, seasonal high water table, depth to bedrock, high potential for ground-water pollution, frost action, limited available water capacity.
Pa:	
Pewamo	Ponding, surface compaction, moderate potential for ground-water pollution, frost action.

TABLE 8.--CROPLAND LIMITATIONS AND HAZARDS--Continued

Soil name and map symbol	Cropland limitations and hazards
Pc:	
Pewamo	Ponding, surface compaction, moderate potential for ground-water pollution, frost action.
Pm:	
Pewamo	Ponding, surface compaction, moderate potential for ground-water pollution, frost action, fair tilth, clodding.
ReA:	
Ravenna	Seasonal high water table, surface compaction, frost action, surface crusting, limited available water capacity, root restrictive layer.
ReB:	
Ravenna	Seasonal high water table, surface compaction, frost action, surface crusting, erosion hazard, limited available water capacity, root restrictive layer.
RsB:	
Rittman	Surface compaction, frost action, surface crusting, erosion hazard, limited available water capacity, root restrictive layer.
RsB2:	
Rittman	Part of the surface layer removed by erosion, surface compaction, frost action, fair tilth, surface crusting, erosion hazard, limited available water capacity, root restrictive layer.
RsC:	
Rittman	Surface compaction, frost action, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
RsC2:	
Rittman	Part of the surface layer removed by erosion, surface compaction, frost action, fair tilth, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
RsD:	
Rittman	Surface compaction, frost action, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
RsD2:	
Rittman	Part of the surface layer removed by erosion, surface compaction, frost action, fair tilth, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
RtC3:	
Rittman	Most of the surface layer removed by erosion, surface compaction, poor tilth, frost action, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
RtD3:	
Rittman	Most of the surface layer removed by erosion, surface compaction, poor tilth, frost action, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
SaC:	
Schaffenaker	Depth to bedrock, high potential for ground-water pollution, erosion hazard, wind erosion, limited available water capacity, sandy layers.
Se:	
Sebring	Ponding, surface compaction, moderate potential for ground-water pollution, frost action.

TABLE 8.--CROPLAND LIMITATIONS AND HAZARDS--Continued

Soil name and map symbol	Cropland limitations and hazards
Sh:	
Shoals	Occasional flooding, ponding, surface compaction, moderate potential for ground-water pollution, frost action.
Sk:	
Shoals Variant	Occasional flooding, seasonal high water table, high potential for ground-water pollution, limited available water capacity, sandy layers.
SmA:	
Sleeth	Seasonal high water table, surface compaction, moderate potential for ground-water pollution, frost action, surface crusting.
So:	
Sloan	Frequent flooding, ponding, surface compaction, moderate potential for ground-water pollution, frost action, fair tilth.
TmA:	
Tiro	Seasonal high water table, surface compaction, frost action, surface crusting.
TmB:	
Tiro	Seasonal high water table, surface compaction, frost action, surface crusting, erosion hazard.
TvB:	
Titusville	Surface compaction, frost action, surface crusting, erosion hazard, limited available water capacity, root restrictive layer.
TvC:	
Titusville	Surface compaction, frost action, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
WaA:	
Wadsworth	Seasonal high water table, surface compaction, frost action, surface crusting, limited available water capacity, restricted permeability, root restrictive layer.
WaB:	
Wadsworth	Seasonal high water table, surface compaction, frost action, surface crusting, erosion hazard, limited available water capacity, restricted permeability, root restrictive layer.
Wc:	
Wallkill	Frequent flooding, ponding, surface compaction, high potential for ground-water pollution, frost action.
WeD:	
Westmoreland	Surface compaction, surface crusting, easily eroded, erosion hazard, limited available water capacity.
WhA:	
Wheeling	Surface compaction, high potential for ground-water pollution, surface crusting.
WhB:	
Wheeling	Surface compaction, high potential for ground-water pollution, surface crusting, erosion hazard.
WhC:	
Wheeling	Surface compaction, high potential for ground-water pollution, surface crusting, easily eroded, erosion hazard.

TABLE 8.--CROPLAND LIMITATIONS AND HAZARDS--Continued

Soil name and map symbol	Cropland limitations and hazards
WmD:	
Mentor	Surface compaction, surface crusting, easily eroded, erosion hazard.
Wheeling	Surface compaction, high potential for ground-water pollution, surface crusting, easily eroded, erosion hazard.
WsB:	
Wooster	Surface compaction, surface crusting, erosion hazard, limited available water capacity, root restrictive layer.
WsB2:	
Wooster	Part of the surface layer removed by erosion, surface compaction, fair tilth, surface crusting, erosion hazard, limited available water capacity, root restrictive layer.
WsC:	
Wooster	Surface compaction, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
WsC2:	
Wooster	Part of the surface layer removed by erosion, surface compaction, fair tilth, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
WsD:	
Wooster	Surface compaction, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
WsD2:	
Wooster	Part of the surface layer removed by erosion, surface compaction, fair tilth, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
WsD3:	
Wooster	Most of the surface layer removed by erosion, surface compaction, poor tilth, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
WtB:	
Wooster	Surface compaction, surface crusting, erosion hazard, limited available water capacity, root restrictive layer.
Chili	High potential for ground-water pollution, erosion hazard, limited available water capacity.
WtC:	
Wooster	Surface compaction, surface crusting, easily eroded, erosion hazard, limited available water capacity, root restrictive layer.
Chili	High potential for ground-water pollution, easily eroded, erosion hazard, limited available water capacity.

TABLE 9.--CROP YIELD INDEX

(This table is based on estimated yields for 1970. Estimated yields for soils with a yield index of 100 were: corn - 130 bushels; soybeans - 45 bushels; and wheat - 65 bushels. Refer to Crop Yield Index section in the text on page 232 for more information on how this table was developed, and instructions on converting yield index numbers to estimated yields. Absence of a yield index indicates that the soil is not suited to the crop or the crop is generally not grown on the soil.)

Map symbol and soil name	Corn	Soybeans	Winter Wheat
AcD2:			
Alexandria	50	---	46
AdB:			
Alexandria	82	71	68
AdC:			
Alexandria	78	67	63
AdC2:			
Alexandria	68	62	60
AdD:			
Alexandria	65	51	60
AdD2:			
Alexandria	56	47	57
AdE:			
Alexandria	---	---	---
AdE2:			
Alexandria	---	---	---
AeD3:			
Alexandria	---	---	---
Ag:			
Algiers	78	82	58
BeB:			
Belmore	78	89	63
BeC:			
Belmore	65	73	57
BeD:			
Belmore	53	---	49
BnA:			
Bennington	81	78	52
BnB:			
Bennington	77	71	55
BnB2:			
Bennington	71	67	51
BpB:			
Bennington	77	76	51
Fitchville			
BrB:			
Berks	59	44	58

TABLE 9.--CROP YIELD INDEX--Continued

Map symbol and soil name	Corn	Soybeans	Winter Wheat
BrC:			
Berks	55	---	49
BrD:			
Berks	---	---	34
BtA:			
Bogart	75	93	65
BtB:			
Bogart	71	84	62
BvA:			
Bogart	92	100	68
BvB:			
Bogart	88	91	65
BwC:			
Brownsville	62	---	55
BwD:			
Brownsville	58	---	46
BxE:			
Brownsville	---	---	---
Westmoreland			
CdB:			
Canfield	84	71	58
CdB2:			
Canfield	77	62	55
CdC:			
Canfield	80	67	55
CdC2:			
Canfield	72	58	52
CgB:			
Cardington	79	71	58
CgB2:			
Cardington	72	62	55
CgC:			
Cardington	78	69	52
CgC2:			
Cardington	65	56	49
ChC3:			
Cardington	45	53	38
Ck:			
Carlisle	92	89	55
CmB:			
Chili	88	89	69
CnB:			
Chili	71	82	62
CnC:			
Chili	65	73	55

TABLE 9.--CROP YIELD INDEX--Continued

Map symbol and soil name	Corn	Soybeans	Winter Wheat
CoD:	---	---	43
Chili			
Conotton			
CoD3:	---	---	---
Chili			
Conotton			
CoE:	---	49	---
Chili			
Conotton			
CoF:	---	---	---
Chili			
Conotton			
Cp:	66	67	49
Condit			
Cr:	63	67	43
Condit			
Cs:	77	69	52
Condit			
Bennington			
CtC:	55	58	46
Conotton			
CvC:	69	---	52
Coshocton			
DmB:	81	80	58
Digby			
FbA:	85	78	58
Fitchville			
FcA:	85	80	51
Fitchville			
FcB:	83	78	51
Fitchville			
FdA:	82	76	51
Fitchville			
Bennington			
FgA:	82	80	51
Fitchville Variant			
FgB:	81	78	51
Fitchville Variant			
Fr:	50	56	40
Frenchtown			
GdB:	69	---	---
Gilpin			
GdC:	65	---	---
Gilpin			
GfA:	92	89	69
Glenford			

TABLE 9.--CROP YIELD INDEX--Continued

Map symbol and soil name	Corn	Soybeans	Winter Wheat
GfB: Glenford	85	84	66
GfC: Glenford	82	71	58
GrB: Gresham	55	56	48
HaB: Haney	71	84	69
HfB: Hanover	84	71	62
HfC: Hanover	81	69	58
HfC2: Hanover	73	67	54
HfC3: Hanover	56	58	40
HfD: Hanover	73	---	52
HfD2: Hanover	62	---	43
Ho: Holly	62	62	45
HpB: Homewood	85	67	69
HpC: Homewood	81	56	62
HpD2: Homewood	65	---	46
JtA: Jimtown	81	84	65
KbA: Kibbie	100	89	100
La: Landes	88	93	66
LfB: Latham	56	58	49
LfC: Latham	45	51	40
Lg: Lenawee	96	93	69
Lk: Linwood	75	93	52

TABLE 9.--CROP YIELD INDEX--Continued

Map symbol and soil name	Corn	Soybeans	Winter Wheat
Lo:			
Lobdell	82	89	62
LrB:			
Lordstown	69	60	58
LrC:			
Lordstown	58	56	55
LrD:			
Lordstown	46	---	43
LtE:			
Lordstown	---	---	37
Loudonville			
LvB:			
Loudonville	77	73	62
LvC:			
Loudonville	69	64	58
LvD:			
Loudonville	46	---	43
Ly:			
Luray	95	89	62
LzB:			
Lykens	81	78	65
MeB:			
Mentor	88	84	69
MeC:			
Mentor	82	76	66
Op:			
Olmsted	92	93	69
Or:			
Orrville Variant	---	---	43
Pa:			
Pewamo	88	93	69
Pc:			
Pewamo	77	71	58
Pm:			
Pewamo	85	89	65
ReA:			
Ravenna	65	62	52
ReB:			
Ravenna	65	62	52
RsB:			
Rittman	71	67	58
RsB2:			
Rittman	67	62	55
RsC:			
Rittman	63	62	55

TABLE 9.--CROP YIELD INDEX--Continued

Map symbol and soil name	Corn	Soybeans	Winter Wheat
RsC2:			
Rittman	60	58	51
RsD:			
Rittman	57	53	46
RsD2:			
Rittman	50	49	43
RtC3:			
Rittman	36	27	17
RtD3:			
Rittman	---	---	---
SaC:			
Schaffenaker	---	---	34
Se:			
Sebring	71	62	48
Sh:			
Shoals	83	80	58
Sk:			
Shoals Variant	77	58	46
SmA:			
Sleeth	92	93	74
So:			
Sloan	92	84	62
TmA:			
Tiro	83	78	51
TmB:			
Tiro	82	76	51
TvB:			
Titusville	82	71	58
TvC:			
Titusville	78	67	55
WaA:			
Wadsworth	62	58	49
WaB:			
Wadsworth	62	53	49
Wc:			
Wallkill	88	78	69
WeD:			
Westmoreland	65	---	---
WhA:			
Wheeling	85	80	69
WhB:			
Wheeling	81	71	65
WhC:			
Wheeling	75	62	57

TABLE 9.--CROP YIELD INDEX--Continued

Map symbol and soil name	Corn	Soybeans	Winter Wheat
WmD:	63	---	52
Wheeling			
Mentor			
WsB:	85	78	65
Wooster			
WsB2:	81	71	62
Wooster			
WsC:	81	76	62
Wooster			
WsC2:	73	67	49
Wooster			
WsD:	73	58	48
Wooster			
WsD2:	68	53	43
Wooster			
WsD3:	---	---	---
Wooster			
WtB:	83	76	62
Wooster			
Chili			
WtC:	81	71	55
Wooster			
Chili			

TABLE 10.--CAPABILITY CLASSES AND SUBCLASSES

(See text on page 232 for additional information.)

Capability class	Capability subclass	Acreage
Unclassified	---	8,798
1	---	2,027
2	e	133,041
	w	58,761
	s	312
3	e	56,302
	w	15,024
4	e	33,972
	s	392
6	e	6,712
	s	802
7	e	909
	s	1,026

TABLE 11.--WOODLAND 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 potential limitation. See text on page 235 for further explanation of ratings in this table.)

Map symbol and soil name	Erosion hazard		Seedling mortality		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AcD2:						
Alexandria	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
AdB:						
Alexandria	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
AdC:						
Alexandria	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
AdC2:						
Alexandria	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
AdD:						
Alexandria	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
AdD2:						
Alexandria	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
AdE:						
Alexandria	Moderate		Low		Severe	
	Water erosion	0.54			Low strength	1.00
AdE2:						
Alexandria	Moderate		Low		Severe	
	Water erosion	0.54			Low strength	1.00
AdF:						
Alexandria	Severe		Low		Severe	
	Water erosion	0.80			Low strength	1.00
AeD3:						
Alexandria	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
Ag:						
Algiers	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
BeB:						
Belmore	Slight		Low		Severe	
	Water erosion	0.05			Low strength	1.00
BeC:						
Belmore	Slight		Low		Severe	
	Water erosion	0.13			Low strength	1.00
BeD:						
Belmore	Moderate		Low		Severe	
	Water erosion	0.25			Low strength	1.00
BnA:						
Bennington	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00

TABLE 11.--WOODLAND MANAGEMENT--Continued

Map symbol and soil name	Erosion hazard		Seedling mortality		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BnB:						
Bennington	Slight Water erosion	0.10	High Wetness	1.00	Severe Low strength	1.00
BnB2:						
Bennington	Slight Water erosion	0.10	High Wetness	1.00	Severe Low strength	1.00
BpB:						
Bennington	Slight Water erosion	0.10	High Wetness	1.00	Severe Low strength	1.00
Fitchville	Slight Water erosion	0.10	High Wetness	1.00	Severe Low strength	1.00
BrB:						
Berks	Slight Water erosion	0.05	Low		Moderate Low strength	0.50
BrC:						
Berks	Slight Water erosion	0.13	Low		Moderate Low strength	0.50
BrD:						
Berks	Moderate Water erosion	0.25	Low		Moderate Low strength	0.50
BsF:						
Berks	Severe Water erosion	0.70	Low		Moderate Low strength	0.50
Rock Outcrop	Not rated		Not rated		Not rated	
BtA:						
Bogart	Slight Water erosion	0.01	Low		Severe Low strength	1.00
BtB:						
Bogart	Slight Water erosion	0.05	Low		Severe Low strength	1.00
BvA:						
Bogart	Slight Water erosion	0.01	Low		Severe Low strength	1.00
BvB:						
Bogart	Slight Water erosion	0.05	Low		Severe Low strength	1.00
BwC:						
Brownsville	Slight Water erosion	0.13	Low		Slight Low strength	0.10
BwD:						
Brownsville	Moderate Water erosion	0.25	Low		Slight Low strength	0.10
BxE:						
Brownsville	Moderate Water erosion	0.37	Low		Slight Low strength	0.10
Westmoreland	Moderate Water erosion	0.54	Low		Severe Low strength	1.00

TABLE 11.--WOODLAND MANAGEMENT--Continued

Map symbol and soil name	Erosion hazard		Seedling mortality		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CdB:						
Canfield	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
CdB2:						
Canfield	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
CdC:						
Canfield	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
CdC2:						
Canfield	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
CgB:						
Cardington	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
CgB2:						
Cardington	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
CgC:						
Cardington	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
CgC2:						
Cardington	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
ChC3:						
Cardington	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
Ck:						
Carlisle	Slight		High		Severe	
	Water erosion	0.01	Wetness	1.00	Low strength	1.00
CmB:						
Chili	Slight		Low		Severe	
	Water erosion	0.05			Low strength	1.00
CnB:						
Chili	Slight		Low		Severe	
	Water erosion	0.05			Low strength	1.00
CnC:						
Chili	Slight		Low		Severe	
	Water erosion	0.13			Low strength	1.00
CoD:						
Chili	Moderate		Low		Severe	
	Water erosion	0.25			Low strength	1.00
Conotton	Moderate		Low		Moderate	
	Water erosion	0.25			Low strength	0.50

TABLE 11.--WOODLAND MANAGEMENT--Continued

Map symbol and soil name	Erosion hazard		Seedling mortality		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CoD3:						
Chili	Moderate		Low		Severe	
	Water erosion	0.25			Low strength	1.00
Conotton	Moderate		Low		Moderate	
	Water erosion	0.25			Low strength	0.50
CoE:						
Chili	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
Conotton	Moderate		Low		Moderate	
	Water erosion	0.37			Low strength	0.50
CoF:						
Chili	Moderate		Low		Severe	
	Water erosion	0.56			Low strength	1.00
Conotton	Moderate		Low		Moderate	
	Water erosion	0.56			Low strength	0.50
Cp:						
Condit	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
Cr:						
Condit	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
Cs:						
Condit	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
Bennington	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
CtC:						
Conotton	Slight		Low		Moderate	
	Water erosion	0.10			Low strength	0.50
CvC:						
Coshocton	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
Cz:						
Cut And Fill Land	Not rated		Not rated		Not rated	
DmB:						
Digby	Slight		High		Severe	
	Water erosion	0.03	Wetness	1.00	Low strength	1.00
FbA:						
Fitchville	Slight		Low		Severe	
	Water erosion	0.02			Low strength	1.00
FcA:						
Fitchville	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
FcB:						
Fitchville	Slight		High		Severe	
	Water erosion	0.10	Wetness	1.00	Low strength	1.00

TABLE 11.--WOODLAND MANAGEMENT--Continued

Map symbol and soil name	Erosion hazard		Seedling mortality		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
FdA:						
Fitchville	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
Bennington	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
FgA:						
Fitchville Variant	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
FgB:						
Fitchville Variant	Slight		High		Severe	
	Water erosion	0.10	Wetness	1.00	Low strength	1.00
Fr:						
Frenchtown	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
GdB:						
Gilpin	Slight		Low		Severe	
	Water erosion	0.05			Low strength	1.00
GdC:						
Gilpin	Slight		Low		Severe	
	Water erosion	0.13			Low strength	1.00
GfA:						
Glenford	Slight		Low		Severe	
	Water erosion	0.02			Low strength	1.00
GfB:						
Glenford	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
GfC:						
Glenford	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
GrB:						
Gresham	Slight		High		Severe	
	Water erosion	0.10	Wetness	1.00	Low strength	1.00
HaB:						
Haney	Slight		Low		Severe	
	Water erosion	0.05			Low strength	1.00
HfB:						
Hanover	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
HfC:						
Hanover	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
HfC2:						
Hanover	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
HfC3:						
Hanover	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00

TABLE 11.--WOODLAND MANAGEMENT--Continued

Map symbol and soil name	Erosion hazard		Seedling mortality		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HfD:						
Hanover	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
HfD2:						
Hanover	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
HfE:						
Hanover	Moderate		Low		Severe	
	Water erosion	0.54			Low strength	1.00
Ho:						
Holly	Slight		High		Severe	
	Water erosion	0.01	Wetness	1.00	Low strength	1.00
HpB:						
Homewood	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
HpC:						
Homewood	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
HpD2:						
Homewood	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
HpE2:						
Homewood	Moderate		Low		Severe	
	Water erosion	0.54			Low strength	1.00
JtA:						
Jimtown	Slight		High		Severe	
	Water erosion	0.01	Wetness	1.00	Low strength	1.00
KbA:						
Kibbie	Slight		Low		Severe	
	Water erosion	0.01			Low strength	1.00
La:						
Landes	Slight		Low		Moderate	
	Water erosion	0.01			Low strength	0.50
Lg:						
Lenawee	Slight		High		Severe	
	Water erosion	0.01	Wetness	1.00	Low strength	1.00
LfB:						
Latham	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
LfC:						
Latham	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
Lk:						
Linwood	Slight		High		Severe	
	Water erosion	0.01	Wetness	1.00	Low strength	1.00
Lo:						
Lobdell	Slight		Low		Severe	
	Water erosion	0.02			Low strength	1.00

TABLE 11.--WOODLAND MANAGEMENT--Continued

Map symbol and soil name	Erosion hazard		Seedling mortality		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LrB:						
Lordstown	Slight		Low		Severe	
	Water erosion	0.05			Low strength	1.00
LrC:						
Lordstown	Slight		Low		Severe	
	Water erosion	0.13			Low strength	1.00
LrD:						
Lordstown	Moderate		Low		Severe	
	Water erosion	0.25			Low strength	1.00
LrE:						
Lordstown	Moderate		Low		Severe	
	Water erosion	0.51			Low strength	1.00
LrF:						
Lordstown	Moderate		Low		Severe	
	Water erosion	0.56			Low strength	1.00
LtE:						
Lordstown	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
Loudonville	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
LtF:						
Lordstown	Moderate		Low		Severe	
	Water erosion	0.56			Low strength	1.00
Loudonville	Moderate		Low		Severe	
	Water erosion	0.56			Low strength	1.00
LvB:						
Loudonville	Slight		Low		Severe	
	Water erosion	0.05			Low strength	1.00
LvC:						
Loudonville	Slight		Low		Severe	
	Water erosion	0.13			Low strength	1.00
LvD:						
Loudonville	Moderate		Low		Severe	
	Water erosion	0.25			Low strength	1.00
Ly:						
Luray	Slight		High		Severe	
	Water erosion	0.01	Wetness	1.00	Low strength	1.00
LzB:						
Lykens	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
MeB:						
Mentor	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
MeC:						
Mentor	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00

TABLE 11.--WOODLAND MANAGEMENT--Continued

Map symbol and soil name	Erosion hazard		Seedling mortality		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Op:						
Olmsted	Slight		High		Severe	
	Water erosion	0.01	Wetness	1.00	Low strength	1.00
Or:						
Orrville Variant	Slight		High		Severe	
	Water erosion	0.01	Wetness	1.00	Low strength	1.00
Pa:						
Pewamo	Slight		High		Severe	
	Water erosion	0.01	Wetness	1.00	Low strength	1.00
Pc:						
Pewamo	Slight		High		Severe	
	Water erosion	0.01	Wetness	1.00	Low strength	1.00
Pg:						
Gravel Pits	Not rated		Not rated		Not rated	
Pm:						
Pewamo	Slight		High		Severe	
	Water erosion	0.01	Wetness	1.00	Low strength	1.00
ReA:						
Ravenna	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
ReB:						
Ravenna	Slight		High		Severe	
	Water erosion	0.10	Wetness	1.00	Low strength	1.00
RsB:						
Rittman	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
RsB2:						
Rittman	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
RsC:						
Rittman	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
RsC2:						
Rittman	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
RsD:						
Rittman	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
RsD2:						
Rittman	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
RtC3:						
Rittman	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
RtD3:						
Rittman	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00

TABLE 11.--WOODLAND MANAGEMENT--Continued

Map symbol and soil name	Erosion hazard		Seedling mortality		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SaC:						
Schaffenaker	Slight		Low		Moderate	
	Water erosion	0.12			Low strength	0.50
SaD:						
Schaffenaker	Moderate		Low		Moderate	
	Water erosion	0.25			Low strength	0.50
SaE:						
Schaffenaker	Moderate		Low		Moderate	
	Water erosion	0.49			Low strength	0.50
SbE:						
Schaffenaker	Slight		Low		Moderate	
	Water erosion	0.19			Low strength	0.50
Se:						
Sebring	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
Sh:						
Shoals	Slight		High		Severe	
	Water erosion	0.01	Wetness	1.00	Low strength	1.00
Sk:						
Shoals Variant	Slight		High		Severe	
	Water erosion	0.01	Wetness	1.00	Low strength	1.00
SmA:						
Sleeth	Slight		Low		Severe	
	Water erosion	0.01			Low strength	1.00
So:						
Sloan	Slight		High		Severe	
	Water erosion	0.01	Wetness	1.00	Low strength	1.00
TmA:						
Tiro	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
TmB:						
Tiro	Slight		High		Severe	
	Water erosion	0.10	Wetness	1.00	Low strength	1.00
TvB:						
Titusville	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
TvC:						
Titusville	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
Uc:						
Udorthents	Not rated		Not rated		Not rated	
Ud:						
Udorthents	Not rated		Not rated		Not rated	
Ur:						
Urban Land	Not rated		Not rated		Not rated	

TABLE 11.--WOODLAND MANAGEMENT--Continued

Map symbol and soil name	Erosion hazard		Seedling mortality		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WaA:						
Wadsworth	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
WaB:						
Wadsworth	Slight		High		Severe	
	Water erosion	0.10	Wetness	1.00	Low strength	1.00
Wc:						
Wallkill	Slight		High		Severe	
	Water erosion	0.02	Wetness	1.00	Low strength	1.00
WeD:						
Westmoreland	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
WhA:						
Wheeling	Slight		Low		Severe	
	Water erosion	0.02			Low strength	1.00
WhB:						
Wheeling	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
WhC:						
Wheeling	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
WmD:						
Mentor	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
Wheeling	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
WsB:						
Wooster	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
WsB2:						
Wooster	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
WsC:						
Wooster	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
WsC2:						
Wooster	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
WsD:						
Wooster	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
WsD2:						
Wooster	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00
WsD3:						
Wooster	Moderate		Low		Severe	
	Water erosion	0.37			Low strength	1.00

TABLE 11.--WOODLAND MANAGEMENT--Continued

Map symbol and soil name	Erosion hazard		Seedling mortality		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WsE:						
Wooster	Moderate		Low		Severe	
	Water erosion	0.54			Low strength	1.00
WsE2:						
Wooster	Moderate		Low		Severe	
	Water erosion	0.54			Low strength	1.00
WsF:						
Wooster	Severe		Low		Severe	
	Water erosion	0.80			Low strength	1.00
WtB:						
Wooster	Slight		Low		Severe	
	Water erosion	0.10			Low strength	1.00
Chili	Slight		Low		Severe	
	Water erosion	0.05			Low strength	1.00
WtC:						
Wooster	Slight		Low		Severe	
	Water erosion	0.22			Low strength	1.00
Chili	Slight		Low		Severe	
	Water erosion	0.13			Low strength	1.00
WvE3:						
Wooster	Severe		Low		Severe	
	Water erosion	0.71			Low strength	1.00

TABLE 12.--WOODLAND HARVESTING ACTIVITIES

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text on page 235 for further explanation of ratings in this table.)

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AcD2:						
Alexandria	Moderate		Poorly suited		Well suited	
	Slope	0.50	Slope	1.00		
AdB:						
Alexandria	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
AdC:						
Alexandria	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
AdC2:						
Alexandria	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
AdD:						
Alexandria	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
AdD2:						
Alexandria	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
AdE:						
Alexandria	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50	Slope	0.50
AdE2:						
Alexandria	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50	Slope	0.50
AdF:						
Alexandria	Severe		Poorly suited		Moderately suited	
	Slope	1.00	Slope	1.00	Slope	0.50
	Low strength	0.50	Low strength	0.50	Low strength	0.50
AeD3:						
Alexandria	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
Ag:						
Algiers	Severe		Poorly suited		Moderately suited	
	Flooding	1.00	Flooding	1.00	Low strength	0.50
	Low strength	0.50	Depth to saturated zone	0.50		
			Low strength	0.50		

TABLE 12.--WOODLAND HARVESTING ACTIVITIES--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BeB:						
Belmore	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
BeC:						
Belmore	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
BeD:						
Belmore	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
BnA:						
Bennington	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
BnB:						
Bennington	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
BnB2:						
Bennington	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
BpB:						
Bennington	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
Fitchville	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
BrB:						
Berks	Moderate		Well suited		Well suited	
	Depth to bedrock	0.50				
BrC:						
Berks	Moderate		Moderately suited		Well suited	
	Depth to bedrock	0.50	Slope	0.50		
BrD:						
Berks	Moderate		Poorly suited		Well suited	
	Depth to bedrock	0.50	Slope	1.00		
	Slope	0.50				
BsF:						
Berks	Severe		Poorly suited		Poorly suited	
	Slope	1.00	Slope	1.00	Slope	1.00
Rock Outcrop	Not rated		Not rated		Not rated	

TABLE 12.--WOODLAND HARVESTING ACTIVITIES--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BtA:						
Bogart	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
BtB:						
Bogart	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
BvA:						
Bogart	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
BvB:						
Bogart	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
BwC:						
Brownsville	Severe		Poorly suited		Well suited	
	Soil slippage	1.00	Soil slippage	1.00		
			Slope	0.50		
BwD:						
Brownsville	Severe		Poorly suited		Well suited	
	Soil slippage	1.00	Soil slippage	1.00		
	Slope	0.50	Slope	1.00		
BxE:						
Brownsville	Severe		Poorly suited		Moderately suited	
	Soil slippage	1.00	Slope	1.00	Slope	0.50
	Slope	0.50	Soil slippage	1.00		
Westmoreland	Severe		Poorly suited		Moderately suited	
	Soil slippage	1.00	Slope	1.00	Low strength	0.50
	Slope	0.50	Soil slippage	1.00	Slope	0.50
	Low strength	0.50	Low strength	0.50		
CdB:						
Canfield	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
CdB2:						
Canfield	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
CdC:						
Canfield	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
CdC2:						
Canfield	Moderate		Moderately suited		Moderately suited	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
CgB:						
Cardington	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50

TABLE 12.--WOODLAND HARVESTING ACTIVITIES--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CgB2:						
Cardington	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
CgC:						
Cardington	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
CgC2:						
Cardington	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
ChC3:						
Cardington	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
Ck:						
Carlisle	Severe		Poorly suited		Poorly suited	
	Low strength	1.00	Ponding	1.00	Low strength	1.00
	Wetness	0.75	Low strength	1.00	Wetness	0.75
			Depth to saturated zone	1.00		
CmB:						
Chili	Severe		Poorly suited		Moderately suited	
	Soil slippage	1.00	Soil slippage	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
CnB:						
Chili	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
CnC:						
Chili	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
CoD:						
Chili	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
Conotton	Moderate		Poorly suited		Well suited	
	Slope	0.50	Slope	1.00		
CoD3:						
Chili	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
	Low strength	0.50	Low strength	0.50		
Conotton	Moderate		Poorly suited		Well suited	
	Slope	0.50	Slope	1.00		

TABLE 12.--WOODLAND HARVESTING ACTIVITIES--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CoE:						
Chili	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50	Slope	0.50
Conotton	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Slope	0.50
CoF:						
Chili	Severe		Poorly suited		Moderately suited	
	Slope	1.00	Slope	1.00	Slope	0.50
	Low strength	0.50	Low strength	0.50	Low strength	0.50
Conotton	Severe		Poorly suited		Moderately suited	
	Slope	1.00	Slope	1.00	Slope	0.50
Cp:						
Condit	Slight		Poorly suited		Well suited	
			Depth to saturated zone	1.00		
Cr:						
Condit	Moderate		Poorly suited		Moderately suited	
	Low strength	0.50	Ponding	1.00	Low strength	0.50
			Depth to saturated zone	1.00		
			Low strength	0.50		
Cs:						
Condit	Moderate		Poorly suited		Moderately suited	
	Low strength	0.50	Ponding	1.00	Low strength	0.50
			Depth to saturated zone	1.00		
			Low strength	0.50		
Bennington	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
CtC:						
Conotton	Slight		Moderately suited		Well suited	
			Slope	0.50		
CvC:						
Coshocton	Slight		Moderately suited		Well suited	
			Slope	0.50		
DmB:						
Digby	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
FbA:						
Fitchville	Slight		Moderately suited		Well suited	
			Depth to saturated zone	0.50		

TABLE 12.--WOODLAND HARVESTING ACTIVITIES--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
FcA:						
Fitchville	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
FcB:						
Fitchville	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
FdA:						
Fitchville	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
Bennington	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
FgA:						
Fitchville Variant	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
FgB:						
Fitchville Variant	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
Fr:						
Frenchtown	Moderate		Poorly suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	1.00	Low strength	0.50
			Low strength	0.50		
GdB:						
Gilpin	Severe		Poorly suited		Moderately suited	
	Soil slippage	1.00	Soil slippage	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
	Depth to bedrock	0.50				
GdC:						
Gilpin	Severe		Poorly suited		Moderately suited	
	Soil slippage	1.00	Soil slippage	1.00	Low strength	0.50
	Low strength	0.50	Slope	0.50		
	Depth to bedrock	0.50	Low strength	0.50		
GfA:						
Glenford	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
GfB:						
Glenford	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50

TABLE 12.--WOODLAND HARVESTING ACTIVITIES--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GfC:						
Glenford	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
GrB:						
Gresham	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
HaB:						
Haney	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
HfB:						
Hanover	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
HfC:						
Hanover	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
HfC2:						
Hanover	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
HfC3:						
Hanover	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
HfD:						
Hanover	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
HfD2:						
Hanover	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
HfE:						
Hanover	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50	Slope	0.50
Ho:						
Holly	Severe		Poorly suited		Moderately suited	
	Flooding	1.00	Flooding	1.00	Low strength	0.50
	Low strength	0.50	Depth to saturated zone	1.00		
			Low strength	0.50		
HpB:						
Homewood	Severe		Poorly suited		Moderately suited	
	Soil slippage	1.00	Soil slippage	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		

TABLE 12.--WOODLAND HARVESTING ACTIVITIES--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HpC:						
Homewood	Severe		Poorly suited		Moderately suited	
	Soil slippage	1.00	Soil slippage	1.00	Low strength	0.50
	Low strength	0.50	Slope	0.50		
			Low strength	0.50		
HpD2:						
Homewood	Severe		Poorly suited		Moderately suited	
	Soil slippage	1.00	Soil slippage	1.00	Low strength	0.50
	Slope	0.50	Slope	1.00		
	Low strength	0.50	Low strength	0.50		
HpE2:						
Homewood	Severe		Poorly suited		Moderately suited	
	Soil slippage	1.00	Slope	1.00	Low strength	0.50
	Slope	0.50	Soil slippage	1.00	Slope	0.50
	Low strength	0.50	Low strength	0.50		
JtA:						
Jimtown	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
KbA:						
Kibbie	Slight		Moderately suited		Well suited	
			Depth to saturated zone	0.50		
La:						
Landes	Severe		Poorly suited		Well suited	
	Flooding	1.00	Flooding	1.00		
LfB:						
Latham	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
LfC:						
Latham	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
Lg:						
Lenawee	Moderate		Poorly suited		Moderately suited	
	Low strength	0.50	Ponding	1.00	Low strength	0.50
			Depth to saturated zone	1.00		
			Low strength	0.50		
Lk:						
Linwood	Severe		Poorly suited		Poorly suited	
	Low strength	1.00	Ponding	1.00	Low strength	1.00
			Low strength	1.00		
			Depth to saturated zone	1.00		
Lo:						
Lobdell	Moderate		Moderately suited		Moderately suited	
	Flooding	0.50	Flooding	0.50	Low strength	0.50
	Low strength	0.50	Low strength	0.50		

TABLE 12.--WOODLAND HARVESTING ACTIVITIES--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LrB:						
Lordstown	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
	Depth to bedrock	0.50				
LrC:						
Lordstown	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
	Depth to bedrock	0.50	Low strength	0.50		
LrD:						
Lordstown	Moderate		Poorly suited		Moderately suited	
	Depth to bedrock	0.50	Slope	1.00	Low strength	0.50
	Slope	0.50	Low strength	0.50		
	Low strength	0.50				
LrE:						
Lordstown	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Slope	0.50
	Depth to bedrock	0.50				
LrF:						
Lordstown	Severe		Poorly suited		Moderately suited	
	Slope	1.00	Slope	1.00	Slope	0.50
LtE:						
Lordstown	Moderate		Poorly suited		Moderately suited	
	Depth to bedrock	0.50	Slope	1.00	Low strength	0.50
	Slope	0.50	Low strength	0.50	Slope	0.50
	Low strength	0.50				
Loudonville	Moderate		Poorly suited		Moderately suited	
	Depth to bedrock	0.50	Slope	1.00	Low strength	0.50
	Slope	0.50	Low strength	0.50	Slope	0.50
	Low strength	0.50				
LtF:						
Lordstown	Severe		Poorly suited		Moderately suited	
	Slope	1.00	Slope	1.00	Slope	0.50
	Low strength	0.50	Low strength	0.50	Low strength	0.50
Loudonville	Severe		Poorly suited		Moderately suited	
	Slope	1.00	Slope	1.00	Slope	0.50
	Low strength	0.50	Low strength	0.50	Low strength	0.50
LvB:						
Loudonville	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
	Depth to bedrock	0.50				
LvC:						
Loudonville	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
	Depth to bedrock	0.50	Low strength	0.50		
LvD:						
Loudonville	Moderate		Poorly suited		Moderately suited	
	Depth to bedrock	0.50	Slope	1.00	Low strength	0.50
	Slope	0.50	Low strength	0.50		
	Low strength	0.50				

TABLE 12.--WOODLAND HARVESTING ACTIVITIES--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ly:						
Luray	Moderate		Poorly suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	1.00	Low strength	0.50
			Ponding	0.50		
			Low strength	0.50		
LzB:						
Lykens	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
MeB:						
Mentor	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
MeC:						
Mentor	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
Op:						
Olmsted	Moderate		Poorly suited		Moderately suited	
	Low strength	0.50	Ponding	1.00	Low strength	0.50
			Depth to saturated zone	1.00		
			Low strength	0.50		
Or:						
Orrville Variant	Severe		Poorly suited		Moderately suited	
	Flooding	1.00	Flooding	1.00	Low strength	0.50
	Low strength	0.50	Depth to saturated zone	0.50		
	Depth to bedrock	0.50	Low strength	0.50		
Pa:						
Pewamo	Moderate		Poorly suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	1.00	Low strength	0.50
			Ponding	0.50		
			Low strength	0.50		
Pc:						
Pewamo	Moderate		Poorly suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	1.00	Low strength	0.50
			Ponding	0.50		
			Low strength	0.50		
Pg:						
Pits, Gravel	Not rated		Not rated		Not rated	
Pm:						
Pewamo	Moderate		Poorly suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	1.00	Low strength	0.50
			Ponding	0.50		
			Low strength	0.50		

TABLE 12.--WOODLAND HARVESTING ACTIVITIES--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ReA:						
Ravenna	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
ReB:						
Ravenna	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
RsB:						
Rittman	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
RsB2:						
Rittman	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
RsC:						
Rittman	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
RsC2:						
Rittman	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
RsD:						
Rittman	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
RsD2:						
Rittman	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
RtC3:						
Rittman	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
RtD3:						
Rittman	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
SaC:						
Schaffenaker	Moderate		Moderately suited		Moderately suited	
	Too sandy	0.50	Too sandy	0.50	Too sandy	0.50
	Depth to bedrock	0.50	Slope	0.50		
SaD:						
Schaffenaker	Severe		Poorly suited		Moderately suited	
	Depth to bedrock	1.00	Slope	1.00	Too sandy	0.50
	Slope	0.50	Too sandy	0.50		
	Too sandy	0.50				

TABLE 12.--WOODLAND HARVESTING ACTIVITIES--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SaE:						
Schaffenaker	Severe		Poorly suited		Moderately suited	
	Depth to bedrock	1.00	Slope	1.00	Slope	0.50
	Slope	0.50	Too sandy	0.50	Too sandy	0.50
	Too sandy	0.50				
SbE:						
Schaffenaker	Moderate		Moderately suited		Well suited	
	Depth to bedrock	0.50	Slope	0.50		
Se:						
Sebring	Moderate		Poorly suited		Moderately suited	
	Low strength	0.50	Ponding	1.00	Low strength	0.50
			Depth to saturated zone	1.00		
			Low strength	0.50		
Sh:						
Shoals	Severe		Poorly suited		Moderately suited	
	Flooding	1.00	Flooding	1.00	Low strength	0.50
	Low strength	0.50	Depth to saturated zone	1.00		
			Ponding	0.50		
			Low strength	0.50		
Sk:						
Shoals Variant	Severe		Poorly suited		Moderately suited	
	Flooding	1.00	Flooding	1.00	Low strength	0.50
	Low strength	0.50	Depth to saturated zone	0.50		
			Low strength	0.50		
SmA:						
Sleeth	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
So:						
Sloan	Severe		Poorly suited		Moderately suited	
	Flooding	1.00	Ponding	1.00	Low strength	0.50
	Low strength	0.50	Flooding	1.00		
			Depth to saturated zone	1.00		
			Low strength	0.50		
TmA:						
Tiro	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
TmB:						
Tiro	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
TvB:						
Titusville	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50

TABLE 12.--WOODLAND HARVESTING ACTIVITIES--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TvC:						
Titusville	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
Uc:						
Udorthents	Not rated		Not rated		Not rated	
Ud:						
Udorthents	Not rated		Not rated		Not rated	
Ur:						
Urban Land	Not rated		Not rated		Not rated	
WaA:						
Wadsworth	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
WaB:						
Wadsworth	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Depth to saturated zone	0.50	Low strength	0.50
			Low strength	0.50		
Wc:						
Wallkill	Severe		Poorly suited		Moderately suited	
	Flooding	1.00	Ponding	1.00	Low strength	0.50
	Low strength	0.50	Flooding	1.00		
			Depth to saturated zone	1.00		
			Low strength	0.50		
WeD:						
Westmoreland	Severe		Poorly suited		Moderately suited	
	Soil slippage	1.00	Soil slippage	1.00	Low strength	0.50
	Slope	0.50	Slope	1.00		
	Low strength	0.50	Low strength	0.50		
WhA:						
Wheeling	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
WhB:						
Wheeling	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
WhC:						
Wheeling	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
WmD:						
Mentor	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
Wheeling	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		

TABLE 12.--WOODLAND HARVESTING ACTIVITIES--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WsB:						
Wooster	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
WsB2:						
Wooster	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
WsC:						
Wooster	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
WsC2:						
Wooster	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
WsD:						
Wooster	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
WsD2:						
Wooster	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
WsD3:						
Wooster	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50		
WsE:						
Wooster	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50	Slope	0.50
WsE2:						
Wooster	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Low strength	0.50	Low strength	0.50	Slope	0.50
WsF:						
Wooster	Severe		Poorly suited		Moderately suited	
	Slope	1.00	Slope	1.00	Slope	0.50
	Low strength	0.50	Low strength	0.50	Low strength	0.50
WtB:						
Wooster	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50
Chili	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50	Low strength	0.50

TABLE 12.--WOODLAND HARVESTING ACTIVITIES--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for roads (natural surface)		Harvest equipment operability	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WtC:						
Wooster	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
Chili	Moderate		Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50	Low strength	0.50
			Low strength	0.50		
WvE3:						
Wooster	Moderate		Poorly suited		Moderately suited	
	Slope	0.50	Slope	1.00	Slope	0.50
	Low strength	0.50	Low strength	0.50	Low strength	0.50

TABLE 13.--WOODLAND REGENERATION ACTIVITIES

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text on page 235 for further explanation of ratings in this table.)

Map symbol and soil name	Suitability for mechanical planting		Suitability for site preparation		Potential for damage to soil by fire	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AcD2:						
Alexandria	Poorly suited		Poorly suited		Moderate	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.70
	Stickiness	0.50				
AdB:						
Alexandria	Poorly suited		Well suited		Low	
	Stickiness	0.50			Texture/rock fragments	0.01
AdC:						
Alexandria	Poorly suited		Well suited		Low	
	Slope	0.50			Texture/rock fragments	0.01
	Stickiness	0.50				
AdC2:						
Alexandria	Poorly suited		Well suited		Low	
	Slope	0.50			Texture/rock fragments	0.01
	Stickiness	0.50				
AdD:						
Alexandria	Poorly suited		Poorly suited		Low	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.01
	Stickiness	0.50				
AdD2:						
Alexandria	Poorly suited		Poorly suited		Low	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.01
	Stickiness	0.50				
AdE:						
Alexandria	Poorly suited		Poorly suited		Low	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.01
	Stickiness	0.50				
AdE2:						
Alexandria	Poorly suited		Poorly suited		Low	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.01
	Stickiness	0.50				
AdF:						
Alexandria	Unsuited		Poorly suited		Low	
	Slope	1.00	Slope	0.75	Texture/slope/rock fragments	0.30
	Stickiness	0.50				
AeD3:						
Alexandria	Poorly suited		Poorly suited		Moderate	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.70
	Stickiness	0.50				

TABLE 13.--WOODLAND REGENERATION ACTIVITIES--Continued

Map symbol and soil name	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for site preparation: Rating class and limiting features	Value	Potential for damage to soil by fire: Rating class and limiting features	Value
Ag:						
Algiers	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
BeB:						
Belmore	Moderately suited		Well suited		Low	
	Rock fragment content	0.18			Texture/rock fragments	0.01
BeC:						
Belmore	Poorly suited		Well suited		Low	
	Slope	0.50			Texture/rock fragments	0.01
	Rock fragment content	0.18				
BeD:						
Belmore	Poorly suited		Poorly suited		Low	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.01
	Rock fragment content	0.18				
BnA:						
Bennington	Poorly suited		Well suited		Low	
	Stickiness	0.50			Texture/rock fragments	0.01
BnB:						
Bennington	Poorly suited		Well suited		Low	
	Stickiness	0.50			Texture/rock fragments	0.01
BnB2:						
Bennington	Poorly suited		Well suited		Low	
	Stickiness	0.50			Texture/rock fragments	0.01
BpB:						
Bennington	Poorly suited		Well suited		Low	
	Stickiness	0.50			Texture/rock fragments	0.01
Fitchville	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
BrB:						
Berks	Unsuited		Poorly suited		Low	
	Rock fragment content	0.96	Rock fragment content	0.50	Texture/rock fragments	0.01
BrC:						
Berks	Unsuited		Poorly suited		Low	
	Rock fragment content	0.96	Rock fragment content	0.50	Texture/rock fragments	0.01
	Slope	0.50				

TABLE 13.--WOODLAND REGENERATION ACTIVITIES--Continued

Map symbol and soil name	Suitability for mechanical planting		Suitability for site preparation		Potential for damage to soil by fire	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BrD:						
Berks	Unsuited		Poorly suited		Low	
	Rock fragment content	0.96	Slope	0.75	Texture/rock fragments	0.01
	Slope	0.75	Rock fragment content	0.50		
BsF:						
Berks	Unsuited		Unsuited		Low	
	Slope	1.00	Slope	1.00	Texture/rock fragments	0.01
	Rock fragment content	0.96	Rock fragment content	0.50		
Rock Outcrop	Not rated		Not rated		Not rated	
BtA:						
Bogart	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
BtB:						
Bogart	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
BvA:						
Bogart	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
BvB:						
Bogart	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
BwC:						
Brownsville	Unsuited		Well suited		Low	
	Rock fragment content	0.80			Texture/rock fragments	0.01
	Slope	0.50				
BwD:						
Brownsville	Unsuited		Poorly suited		Low	
	Rock fragment content	0.80	Slope	0.75	Texture/rock fragments	0.01
	Slope	0.75				
BxE:						
Brownsville	Unsuited		Poorly suited		Low	
	Rock fragment content	0.80	Slope	0.75	Texture/surface depth/rock fragments	0.30
	Slope	0.75				
Westmoreland	Poorly suited		Poorly suited		Low	
	Slope	0.75	Slope	0.75	Texture/surface depth/rock fragments	0.30

TABLE 13.--WOODLAND REGENERATION ACTIVITIES--Continued

Map symbol and soil name	Suitability for mechanical planting		Suitability for site preparation		Potential for damage to soil by fire	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CdB:						
Canfield	Well suited		Well suited		Low Texture/rock fragments	0.01
CdB2:						
Canfield	Well suited		Well suited		Low Texture/rock fragments	0.01
CdC:						
Canfield	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
CdC2:						
Canfield	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
CgB:						
Cardington	Well suited		Well suited		Low Texture/rock fragments	0.01
CgB2:						
Cardington	Well suited		Well suited		Low Texture/rock fragments	0.01
CgC:						
Cardington	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
CgC2:						
Cardington	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
ChC3:						
Cardington	Poorly suited Slope	0.50	Well suited		Moderate Texture/rock fragments	0.70
Ck:						
Carlisle	Poorly suited Wetness	0.75	Poorly suited Wetness	0.75	Low	
CmB:						
Chili	Moderately suited Rock fragment content	0.37	Well suited		Low Texture/rock fragments	0.01
CnB:						
Chili	Moderately suited Rock fragment content	0.25	Well suited		Low Texture/rock fragments	0.01

TABLE 13.--WOODLAND REGENERATION ACTIVITIES--Continued

Map symbol and soil name	Suitability for mechanical planting		Suitability for site preparation		Potential for damage to soil by fire	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CnC:						
Chili	Poorly suited		Well suited		Low	
	Slope	0.50			Texture/rock fragments	0.01
	Rock fragment content	0.25				
CoD:						
Chili	Poorly suited		Poorly suited		Low	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.01
	Rock fragment content	0.25				
Conotton	Poorly suited		Poorly suited		Moderate	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.50
	Rock fragment content	0.28				
CoD3:						
Chili	Poorly suited		Poorly suited		Moderate	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.50
	Rock fragment content	0.25				
Conotton	Poorly suited		Poorly suited		Moderate	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.50
	Rock fragment content	0.28				
CoE:						
Chili	Poorly suited		Poorly suited		Low	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.01
	Rock fragment content	0.25				
Conotton	Poorly suited		Poorly suited		Moderate	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.50
	Rock fragment content	0.28				
CoF:						
Chili	Unsuited		Poorly suited		Low	
	Slope	1.00	Slope	0.75	Texture/rock fragments	0.01
	Rock fragment content	0.25				
Conotton	Unsuited		Poorly suited		Moderate	
	Slope	1.00	Slope	0.75	Texture/rock fragments	0.50
	Rock fragment content	0.28				
Cp:						
Condit	Poorly suited		Well suited		Low	
	Stickiness	0.50			Texture/rock fragments	0.30

TABLE 13.--WOODLAND REGENERATION ACTIVITIES--Continued

Map symbol and soil name	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for site preparation: Rating class and limiting features	Value	Potential for damage to soil by fire: Rating class and limiting features	Value
Cr:						
Condit	Poorly suited		Well suited		Low	
	Stickiness	0.50			Texture/rock fragments	0.01
Cs:						
Condit	Poorly suited		Well suited		Low	
	Stickiness	0.50			Texture/rock fragments	0.01
Bennington	Poorly suited		Well suited		Low	
	Stickiness	0.50			Texture/rock fragments	0.01
CtC:						
Conotton	Poorly suited		Well suited		Moderate	
	Slope	0.50			Texture/rock fragments	0.50
	Rock fragment content	0.28				
CvC:						
Coshocton	Poorly suited		Well suited		Low	
	Stickiness	0.50			Texture/rock fragments	0.01
	Slope	0.50				
	Rock fragment content	0.28				
DmB:						
Digby	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
FbA:						
Fitchville	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
FcA:						
Fitchville	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
FcB:						
Fitchville	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
FdA:						
Fitchville	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
Bennington	Poorly suited		Well suited		Low	
	Stickiness	0.50			Texture/rock fragments	0.01
FgA:						
Fitchville Variant	Well suited		Well suited		Low	
					Texture/rock fragments	0.01

TABLE 13.--WOODLAND REGENERATION ACTIVITIES--Continued

Map symbol and soil name	Suitability for mechanical planting		Suitability for site preparation		Potential for damage to soil by fire	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
FgB:						
Fitchville Variant	Well suited		Well suited		Low Texture/rock fragments	0.01
Fr:						
Frenchtown	Well suited		Well suited		Low Texture/rock fragments	0.01
GdB:						
Gilpin	Well suited		Well suited		Low Texture/rock fragments	0.01
GdC:						
Gilpin	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
GfA:						
Glenford	Well suited		Well suited		Low Texture/rock fragments	0.01
GfB:						
Glenford	Well suited		Well suited		Low Texture/rock fragments	0.01
GfC:						
Glenford	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
GrB:						
Gresham	Well suited		Well suited		Low Texture/rock fragments	0.01
HaB:						
Haney	Well suited		Well suited		Low Texture/rock fragments	0.01
HfB:						
Hanover	Well suited		Well suited		Low Texture/rock fragments	0.01
HfC:						
Hanover	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
HfC2:						
Hanover	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
HfC3:						
Hanover	Poorly suited Slope	0.50	Well suited		Moderate Texture/rock fragments	0.50

TABLE 13.--WOODLAND REGENERATION ACTIVITIES--Continued

Map symbol and soil name	Suitability for mechanical planting		Suitability for site preparation		Potential for damage to soil by fire	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HfD:						
Hanover	Poorly suited Slope	0.75	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01
HfD2:						
Hanover	Poorly suited Slope	0.75	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01
HfE:						
Hanover	Poorly suited Slope	0.75	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01
Ho:						
Holly	Well suited		Well suited		Low Texture/rock fragments	0.01
HpB:						
Homewood	Well suited		Well suited		Low Texture/rock fragments	0.01
HpC:						
Homewood	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
HpD2:						
Homewood	Poorly suited Slope	0.75	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01
HpE2:						
Homewood	Poorly suited Slope	0.75	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01
JtA:						
Jimtown	Well suited		Well suited		Low Texture/rock fragments	0.01
KbA:						
Kibbie	Well suited		Well suited		Low Texture/rock fragments	0.01
La:						
Landes	Well suited		Well suited		Moderate Texture/rock fragments	0.50
LfB:						
Latham	Poorly suited Stickiness	0.75	Poorly suited Stickiness	0.50	Low Texture/rock fragments	0.01

TABLE 13.--WOODLAND REGENERATION ACTIVITIES--Continued

Map symbol and soil name	Suitability for mechanical planting		Suitability for site preparation		Potential for damage to soil by fire	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LfC:						
Latham	Poorly suited		Poorly suited		Low	
	Stickiness	0.75	Stickiness	0.50	Texture/rock fragments	0.01
	Slope	0.50				
Lg:						
Lenawee	Poorly suited		Well suited		Low	
	Stickiness	0.50			Texture/rock fragments	0.30
Lk:						
Linwood	Well suited		Well suited		Low	
Lo:						
Lobdell	Well suited		Well suited		Moderate	
					Texture/rock fragments	0.50
LrB:						
Lordstown	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
LrC:						
Lordstown	Poorly suited		Well suited		Low	
	Slope	0.50			Texture/rock fragments	0.01
LrD:						
Lordstown	Poorly suited		Poorly suited		Low	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.01
LrE:						
Lordstown	Unsuited		Poorly suited		Moderate	
	Slope	1.00	Slope	0.75	Texture/slope/surface depth/rock fragments	0.50
	Rock fragment content	0.37				
LrF:						
Lordstown	Unsuited		Poorly suited		Moderate	
	Slope	1.00	Slope	0.75	Texture/slope/surface depth/rock fragments	0.50
	Rock fragment content	0.37				
LtE:						
Lordstown	Poorly suited		Poorly suited		Low	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.01
Loudonville	Poorly suited		Poorly suited		Low	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.01

TABLE 13.--WOODLAND REGENERATION ACTIVITIES--Continued

Map symbol and soil name	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for site preparation: Rating class and limiting features	Value	Potential for damage to soil by fire: Rating class and limiting features	Value
LtF:						
Lordstown	Unsuited Slope	1.00	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01
Loudonville	Unsuited Slope	1.00	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01
LvB:						
Loudonville	Well suited		Well suited		Low Texture/rock fragments	0.01
LvC:						
Loudonville	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
LvD:						
Loudonville	Poorly suited Slope	0.75	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01
Ly:						
Luray	Poorly suited Stickiness	0.50	Well suited		Low Texture/rock fragments	0.30
LzB:						
Lykens	Well suited		Well suited		Low Texture/rock fragments	0.01
MeB:						
Mentor	Well suited		Well suited		Low Texture/rock fragments	0.01
MeC:						
Mentor	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
Op:						
Olmsted	Well suited		Well suited		Low Texture/rock fragments	0.30
Or:						
Orrville Variant	Well suited		Well suited		Low Texture/rock fragments	0.01
Pa:						
Pewamo	Poorly suited Stickiness	0.50	Well suited		Low Texture/rock fragments	0.01
Pc:						
Pewamo	Poorly suited Stickiness	0.50	Well suited		Low Texture/rock fragments	0.01

TABLE 13.--WOODLAND REGENERATION ACTIVITIES--Continued

Map symbol and soil name	Suitability for mechanical planting		Suitability for site preparation		Potential for damage to soil by fire	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Pg:						
Pits, Gravel	Not rated		Not rated		Not rated	
Pm:						
Pewamo	Poorly suited		Well suited		Low	
	Stickiness	0.50			Texture/rock fragments	0.30
ReA:						
Ravenna	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
ReB:						
Ravenna	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
RsB:						
Rittman	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
RsB2:						
Rittman	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
RsC:						
Rittman	Poorly suited		Well suited		Low	
	Slope	0.50			Texture/rock fragments	0.01
RsC2:						
Rittman	Poorly suited		Well suited		Low	
	Slope	0.50			Texture/rock fragments	0.01
RsD:						
Rittman	Poorly suited		Poorly suited		Low	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.01
RsD2:						
Rittman	Poorly suited		Poorly suited		Low	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.01
RtC3:						
Rittman	Poorly suited		Well suited		Moderate	
	Slope	0.50			Texture/rock fragments	0.70
RtD3:						
Rittman	Poorly suited		Poorly suited		Moderate	
	Slope	0.75	Slope	0.75	Texture/rock fragments	0.70

TABLE 13.--WOODLAND REGENERATION ACTIVITIES--Continued

Map symbol and soil name	Suitability for mechanical planting		Suitability for site preparation		Potential for damage to soil by fire	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SaC:						
Schaffenaker	Poorly suited		Well suited		High	
	Too sandy	0.50			Texture/surface depth/rock fragments	1.00
	Slope	0.50				
	Rock fragment content	0.05				
SaD:						
Schaffenaker	Poorly suited		Poorly suited		High	
	Slope	0.75	Slope	0.75	Texture/surface depth/rock fragments	1.00
	Too sandy	0.50				
	Rock fragment content	0.05				
SaE:						
Schaffenaker	Unsuited		Poorly suited		High	
	Slope	1.00	Slope	0.75	Texture/surface depth/rock fragments	1.00
	Too sandy	0.50				
	Rock fragment content	0.05				
SbE:						
Schaffenaker	Poorly suited		Well suited		High	
	Slope	0.50			Texture/rock fragments	1.00
Se:						
Sebring	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
Sh:						
Shoals	Well suited		Well suited		Low	
					Texture/rock fragments	0.01
Sk:						
Shoals Variant	Unsuited		Well suited		Low	
	Rock fragment content	0.97			Texture/rock fragments	0.01
SmA:						
Sleeth	Well suited		Well suited		Moderate	
					Texture/rock fragments	0.50
So:						
Sloan	Well suited		Well suited		Low	
					Texture/rock fragments	0.30
TmA:						
Tiro	Well suited		Well suited		Low	
					Texture/rock fragments	0.01

TABLE 13.--WOODLAND REGENERATION ACTIVITIES--Continued

Map symbol and soil name	Suitability for mechanical planting		Suitability for site preparation		Potential for damage to soil by fire	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TmB:						
Tiro	Well suited		Well suited		Low Texture/rock fragments	0.01
TvB:						
Titusville	Well suited		Well suited		Low Texture/rock fragments	0.01
TvC:						
Titusville	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
Uc:						
Udorthents	Not rated		Not rated		Not rated	
Ud:						
Udorthents	Not rated		Not rated		Not rated	
Ur:						
Urban Land	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	
WaA:						
Wadsworth	Well suited		Well suited		Low Texture/rock fragments	0.01
WaB:						
Wadsworth	Well suited		Well suited		Low Texture/rock fragments	0.01
Wc:						
Wallkill	Well suited		Well suited		Low Texture/rock fragments	0.01
WeD:						
Westmoreland	Poorly suited Slope	0.75	Poorly suited Slope	0.75	Low Texture/surface depth/rock fragments	0.30
WhA:						
Wheeling	Well suited		Well suited		Low Texture/rock fragments	0.01
WhB:						
Wheeling	Well suited		Well suited		Low Texture/rock fragments	0.01
WhC:						
Wheeling	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01

TABLE 13.--WOODLAND REGENERATION ACTIVITIES--Continued

Map symbol and soil name	Suitability for mechanical planting		Suitability for site preparation		Potential for damage to soil by fire	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WmD:						
Mentor	Poorly suited Slope	0.75	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01
Wheeling	Poorly suited Slope	0.75	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01
WsB:						
Wooster	Well suited		Well suited		Low Texture/rock fragments	0.01
WsB2:						
Wooster	Well suited		Well suited		Low Texture/rock fragments	0.01
WsC:						
Wooster	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
WsC2:						
Wooster	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
WsD:						
Wooster	Poorly suited Slope	0.75	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01
WsD2:						
Wooster	Poorly suited Slope	0.75	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01
WsD3:						
Wooster	Poorly suited Slope	0.75	Poorly suited Slope	0.75	Moderate Texture/rock fragments	0.50
WsE:						
Wooster	Poorly suited Slope	0.75	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01
WsE2:						
Wooster	Poorly suited Slope	0.75	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01
WsF:						
Wooster	Unsuited Slope	1.00	Poorly suited Slope	0.75	Low Texture/rock fragments	0.01

TABLE 13.--WOODLAND REGENERATION ACTIVITIES--Continued

Map symbol and soil name	Suitability for mechanical planting		Suitability for site preparation		Potential for damage to soil by fire	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WtB:						
Wooster	Well suited		Well suited		Low Texture/rock fragments	0.01
Chili	Moderately suited Rock fragment content	0.25	Well suited		Low Texture/rock fragments	0.01
WtC:						
Wooster	Poorly suited Slope	0.50	Well suited		Low Texture/rock fragments	0.01
Chili	Poorly suited Slope Rock fragment content	0.50 0.25	Well suited		Low Texture/rock fragments	0.01
WvE3:						
Wooster	Unsuited Slope	1.00	Poorly suited Slope	0.75	Moderate Texture/rock fragments	0.50

TABLE 14.--WOODLAND PRODUCTIVITY

(See text on page 236 for additional information.)

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
AcD2:				
Alexandria	black cherry	---	---	eastern white pine,
	black walnut	---	---	northern red oak,
	northern red oak	80	57	red pine,
	sugar maple	---	---	tuliptree, white
	tuliptree	---	---	ash, white oak
	white ash	---	---	
	white oak	75	57	
AdB:				
Alexandria	black cherry	---	---	black walnut,
	black walnut	---	---	eastern white
	northern red oak	80	57	pine, northern red
	sugar maple	---	---	oak, red pine,
	tuliptree	---	---	tuliptree, white
	white ash	---	---	ash, white oak
	white oak	75	57	
AdC:				
Alexandria	black cherry	---	---	black walnut,
	black walnut	---	---	eastern white
	northern red oak	80	57	pine, northern red
	sugar maple	---	---	oak, red pine,
	tuliptree	---	---	tuliptree, white
	white ash	---	---	ash, white oak
	white oak	75	57	
AdC2:				
Alexandria	black cherry	---	---	black walnut,
	black walnut	---	---	eastern white
	northern red oak	80	57	pine, northern red
	sugar maple	---	---	oak, red pine,
	tuliptree	---	---	tuliptree, white
	white ash	---	---	ash, white oak
	white oak	75	57	
AdD:				
Alexandria	black cherry	---	---	eastern white pine,
	black walnut	---	---	northern red oak,
	northern red oak	80	57	red pine,
	sugar maple	---	---	tuliptree, white
	tuliptree	---	---	ash, white oak
	white ash	---	---	
	white oak	75	57	
AdD2:				
Alexandria	black cherry	---	---	eastern white pine,
	black walnut	---	---	northern red oak,
	northern red oak	80	57	red pine,
	sugar maple	---	---	tuliptree, white
	tuliptree	---	---	ash, white oak
	white ash	---	---	
	white oak	75	57	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
AdE:				
Alexandria	black cherry	---	---	eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
	black walnut	---	---	
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	
AdE2:				
Alexandria	black cherry	---	---	eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
	black walnut	---	---	
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	
AdF:				
Alexandria	black cherry	---	---	eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
	black walnut	---	---	
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	
AeD3:				
Alexandria	black cherry	---	---	eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
	black walnut	---	---	
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	
Ag:				
Algiers	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	76	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	
BeB:				
Belmore	black cherry	---	---	black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
	black walnut	---	---	
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
BeC:				
Belmore	black cherry	---	---	black walnut,
	black walnut	---	---	eastern white
	northern red oak	80	57	pine, northern red
	sugar maple	---	---	oak, red pine,
	tuliptree	---	---	tuliptree, white
	white ash	---	---	ash, white oak
	white oak	---	---	
BeD:				
Belmore	black cherry	---	---	black walnut,
	black walnut	---	---	eastern white
	northern red oak	80	57	pine, northern red
	sugar maple	---	---	oak, red pine,
	tuliptree	---	---	tuliptree, white
	white ash	---	---	ash, white oak
	white oak	---	---	
BnA:				
Bennington	black cherry	---	---	American sycamore,
	northern red oak	80	57	black cherry,
	sugar maple	---	---	black locust,
	tuliptree	90	86	eastern white
	white ash	---	---	pine, green ash,
	white oak	---	---	northern red oak,
				red pine,
				tuliptree, white
				ash, white oak
BnB:				
Bennington	black cherry	---	---	American sycamore,
	northern red oak	80	57	black cherry,
	sugar maple	---	---	black locust,
	tuliptree	90	86	eastern white
	white ash	---	---	pine, green ash,
	white oak	---	---	northern red oak,
				red pine,
				tuliptree, white
				ash, white oak
BnB2:				
Bennington	black cherry	---	---	American sycamore,
	northern red oak	80	57	black cherry,
	sugar maple	---	---	black locust,
	tuliptree	90	86	eastern white
	white ash	---	---	pine, green ash,
	white oak	---	---	northern red oak,
				red pine,
				tuliptree, white
				ash, white oak

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
BpB:				
Bennington	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	90	86	
	white ash	---	---	
	white oak	---	---	
Fitchville	northern red oak	80	57	Norway spruce, Scotch pine, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	pin oak	90	72	
	sugar maple	---	---	
	tuliptree	---	---	
BrB:				
Berks	Virginia pine	70	114	Japanese larch, Norway spruce, Virginia pine, eastern white pine, red pine
	black oak	70	57	
	northern red oak	70	57	
BrC:				
Berks	Virginia pine	70	114	Japanese larch, Norway spruce, Virginia pine, eastern white pine, red pine
	black oak	70	57	
	northern red oak	70	57	
BrD:				
Berks	Virginia pine	70	114	Japanese larch, Norway spruce, Virginia pine, eastern white pine, red pine
	black oak	70	57	
	northern red oak	70	57	
BsF:				
Berks	Virginia pine	70	114	Japanese larch, Norway spruce, Virginia pine, eastern white pine, red pine
	black oak	70	57	
	northern red oak	70	57	
Rock Outcrop	---	---	---	---
BtA:				
Bogart	black cherry	---	---	black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
	black walnut	---	---	
	northern red oak	85	72	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	85	72	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
BtB:				
Bogart	black cherry	---	---	black walnut,
	black walnut	---	---	eastern white
	northern red oak	85	72	pine, northern red
	sugar maple	---	---	oak, red pine,
	tuliptree	---	---	tuliptree, white
	white ash	---	---	ash, white oak
	white oak	85	72	
BvA:				
Bogart	black cherry	---	---	black walnut,
	black walnut	---	---	eastern white
	northern red oak	85	72	pine, northern red
	sugar maple	---	---	oak, red pine,
	tuliptree	---	---	tuliptree, white
	white ash	---	---	ash, white oak
	white oak	85	72	
BvB:				
Bogart	black cherry	---	---	black walnut,
	black walnut	---	---	eastern white
	northern red oak	85	72	pine, northern red
	sugar maple	---	---	oak, red pine,
	tuliptree	---	---	tuliptree, white
	white ash	---	---	ash, white oak
	white oak	85	72	
BwC:				
Brownsville	northern red oak	75	57	Virginia pine,
	tuliptree	85	86	black oak, eastern
	white oak	---	---	white pine, red
				pine, tuliptree,
				white ash
BwD:				
Brownsville	northern red oak	75	57	Virginia pine,
	tuliptree	85	86	black oak, eastern
	white oak	---	---	white pine, red
				pine, tuliptree,
				white ash
BxE:				
Brownsville	northern red oak	75	57	Virginia pine,
	tuliptree	85	86	black oak, eastern
	white oak	---	---	white pine, red
				pine, tuliptree,
				white ash
Westmoreland	eastern white pine	75	143	black walnut,
	northern red oak	81	57	eastern white
	tuliptree	90	86	pine, tuliptree
CdB:				
Canfield	American beech	---	---	Virginia pine,
	American sycamore	---	---	black oak, eastern
	northern red oak	87	72	white pine, red
	slippery elm	---	---	pine, tuliptree,
	sugar maple	70	43	white ash
	white ash	83	86	
	white oak	---	---	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
CdB2:				
Canfield	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	87	72	
	slippery elm	---	---	
	sugar maple	70	43	
	white ash	83	86	
	white oak	---	---	
CdC:				
Canfield	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	87	72	
	slippery elm	---	---	
	sugar maple	70	43	
	white ash	83	86	
	white oak	---	---	
CdC2:				
Canfield	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	87	72	
	slippery elm	---	---	
	sugar maple	70	43	
	white ash	83	86	
	white oak	---	---	
CgB:				
Cardington	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	
CgB2:				
Cardington	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	
CgC:				
Cardington	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
CgC2:				
Cardington	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	
ChC3:				
Cardington	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	
Ck:				
Carlisle	black cherry	---	---	black willow, green ash, red maple
	eastern cottonwood	80	86	
	green ash	---	---	
	red maple	---	---	
	swamp white oak	---	---	
	white ash	---	---	
CmB:				
Chili	black cherry	---	---	Norway spruce, Scotch pine, black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	black walnut	---	---	
	northern red oak	85	72	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	80	57	
CnB:				
Chili	black cherry	---	---	Norway spruce, Scotch pine, black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	black walnut	---	---	
	northern red oak	85	72	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	80	57	
CnC:				
Chili	black cherry	---	---	Norway spruce, Scotch pine, black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	black walnut	---	---	
	northern red oak	85	72	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	80	57	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
CoD:				
Chili	black cherry	---	---	Norway spruce, Scotch pine, black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	black walnut	---	---	
	northern red oak	85	72	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	80	57	
Conotton	black cherry	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	black oak	---	---	
	northern red oak	70	57	
	red maple	---	---	
	scarlet oak	---	---	
	tuliptree	---	---	
	white oak	70	57	
CoD3:				
Chili	black cherry	---	---	Norway spruce, Scotch pine, black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	black walnut	---	---	
	northern red oak	85	72	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	80	57	
Conotton	black cherry	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	black oak	---	---	
	northern red oak	70	57	
	red maple	---	---	
	scarlet oak	---	---	
	tuliptree	---	---	
	white oak	70	57	
CoE:				
Chili	black cherry	---	---	Norway spruce, Scotch pine, black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	black walnut	---	---	
	northern red oak	85	72	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	80	57	
Conotton	black cherry	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	black oak	---	---	
	northern red oak	70	57	
	red maple	---	---	
	scarlet oak	---	---	
	tuliptree	---	---	
	white oak	70	57	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
CoF:				
Chili	black cherry	---	---	Norway spruce, Scotch pine, black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	black walnut	---	---	
	northern red oak	85	72	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	80	57	
Conotton	black cherry	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	black oak	---	---	
	northern red oak	70	57	
	red maple	---	---	
	scarlet oak	---	---	
	tuliptree	---	---	
	white oak	70	57	
Cp:				
Condit	black cherry	---	---	American sycamore, baldcypress, eastern cottonwood, green ash, pin oak, red maple, swamp white oak, sweetgum
	eastern cottonwood	---	---	
	green ash	---	---	
	pin oak	90	72	
	red maple	---	---	
	swamp white oak	---	---	
Cr:				
Condit	black cherry	---	---	American sycamore, baldcypress, eastern cottonwood, green ash, pin oak, red maple, swamp white oak, sweetgum
	eastern cottonwood	---	---	
	green ash	---	---	
	pin oak	90	72	
	red maple	---	---	
	swamp white oak	---	---	
Cs:				
Condit	pin oak	90	72	eastern white pine, tuliptree, red maple, white spruce
	northern red oak	80	---	
	black oak	---	---	
	red maple	---	---	
Bennington	pin oak	86	---	eastern white pine, tuliptree, Norway spruce
	northern red oak	80	57	
	black oak	80	---	
	tuliptree	90	86	
	sugar maple	---	---	
CtC:				
Conotton	black cherry	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	black oak	---	---	
	northern red oak	70	57	
	red maple	---	---	
	scarlet oak	---	---	
	tuliptree	---	---	
	white oak	70	57	
CvC:				
Coshocton	northern red oak	80	57	eastern white pine, yellow poplar, Norway spruce, Austrian pine
	white oak	75	57	
	yellow poplar	90	86	
	white ash	---	---	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
DmB:				
Digby	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	80	57	
	pin oak	---	---	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	
FbA:				
Fitchville	pin oak	90	72	eastern white pine, yellow poplar
	northern red oak	80	57	
	yellow poplar	---	---	
	sugar maple	---	---	
FcA:				
Fitchville	northern red oak	80	57	Norway spruce, Scotch pine, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	pin oak	90	72	
	sugar maple	---	---	
	tuliptree	---	---	
FcB:				
Fitchville	northern red oak	80	57	Norway spruce, Scotch pine, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	pin oak	90	72	
	sugar maple	---	---	
	tuliptree	---	---	
FdA:				
Fitchville	northern red oak	80	57	Norway spruce, Scotch pine, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	pin oak	90	72	
	sugar maple	---	---	
	tuliptree	---	---	
Bennington	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	90	86	
	white ash	---	---	
	white oak	---	---	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
FgA:				
Fitchville Variant	northern red oak	---	---	Norway spruce, Scotch pine, blue spruce, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	pin oak	90	72	
	sugar maple	---	---	
	tuliptree	---	---	
FgB:				
Fitchville Variant	northern red oak	---	---	Norway spruce, Scotch pine, blue spruce, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	pin oak	90	72	
	sugar maple	---	---	
	tuliptree	---	---	
Fr:				
Frenchtown	black cherry	88	57	American sycamore, baldcypress, eastern cottonwood, green ash, pin oak, red maple, silver maple, swamp white oak, sweetgum
	eastern cottonwood	---	---	
	northern red oak	89	72	
	pin oak	92	72	
	sugar maple	83	57	
	tuliptree	93	100	
	white ash	85	86	
GdB:				
Gilpin	northern red oak	80	57	Japanese larch, Virginia pine, black cherry, eastern white pine, tuliptree
	tuliptree	95	100	
GdC:				
Gilpin	northern red oak	80	57	Japanese larch, Virginia pine, black cherry, eastern white pine, tuliptree
	tuliptree	95	100	
GfA:				
Glenford	black cherry	---	---	Norway spruce, Scotch pine, blue spruce, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	86	72	
	sugar maple	---	---	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
GfB:				
Glenford	black cherry	---	---	Norway spruce, Scotch pine, blue spruce, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	86	72	
	sugar maple	---	---	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	
GfC:				
Glenford	black cherry	---	---	Norway spruce, Scotch pine, blue spruce, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	86	72	
	sugar maple	---	---	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	
GrB:				
Gresham	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	80	57	
	pin oak	86	72	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	
HaB:				
Haney	black cherry	---	---	black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
	black walnut	---	---	
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	
HfB:				
Hanover	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	eastern white pine	76	172	
	northern red oak	93	72	
	red pine	76	143	
	slippery elm	76	---	
	sugar maple	---	---	
	white ash	---	---	
	white oak	---	---	
HfC:				
Hanover	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	eastern white pine	76	172	
	northern red oak	93	72	
	red pine	76	143	
	slippery elm	76	---	
	sugar maple	---	---	
	white ash	---	---	
	white oak	---	---	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
HfC2:				
Hanover	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	eastern white pine	76	172	
	northern red oak	93	72	
	red pine	76	143	
	slippery elm	76	---	
	sugar maple	---	---	
	white ash	---	---	
	white oak	---	---	
HfC3:				
Hanover	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	eastern white pine	76	172	
	northern red oak	93	72	
	red pine	76	143	
	slippery elm	76	---	
	sugar maple	---	---	
	white ash	---	---	
	white oak	---	---	
HfD:				
Hanover	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	eastern white pine	76	172	
	northern red oak	93	72	
	red pine	76	143	
	slippery elm	76	---	
	sugar maple	---	---	
	white ash	---	---	
	white oak	---	---	
HfD2:				
Hanover	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	eastern white pine	76	172	
	northern red oak	93	72	
	red pine	76	143	
	slippery elm	76	---	
	sugar maple	---	---	
	white ash	---	---	
	white oak	---	---	
HfE:				
Hanover	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	eastern white pine	76	172	
	northern red oak	93	72	
	red pine	76	143	
	slippery elm	76	---	
	sugar maple	---	---	
	white ash	---	---	
	white oak	---	---	
Ho:				
Holly	black cherry	---	---	American sycamore, baldcypress, eastern cottonwood, green ash, pin oak, red maple, silver maple, swamp white oak, sweetgum
	eastern cottonwood	---	---	
	green ash	---	---	
	pin oak	90	72	
	red maple	---	---	
	swamp white oak	---	---	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
HpB:				
Homewood	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	93	72	
	slippery elm	---	---	
	sugar maple	---	---	
	white ash	---	---	
	white oak	---	---	
HpC:				
Homewood	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	93	72	
	slippery elm	---	---	
	sugar maple	---	---	
	white ash	---	---	
	white oak	---	---	
HpD2:				
Homewood	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	93	72	
	slippery elm	---	---	
	sugar maple	---	---	
	white ash	---	---	
	white oak	---	---	
HpE2:				
Homewood	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	93	72	
	slippery elm	---	---	
	sugar maple	---	---	
	white ash	---	---	
	white oak	---	---	
JtA:				
Jimtown	pin oak	95	---	eastern white pine, tuliptree, Norway spruce
	northern red oak	85	72	
	black oak	85	---	
	tuliptree	---	---	
	sugar maple	---	---	
	white ash	---	---	
KbA:				
Kibbie	eastern cottonwood	---	---	Norway spruce, eastern white pine, tuliptree, white ash
	northern red oak	---	---	
	pin oak	90	72	
	white ash	---	---	
La:				
Landes	American sycamore	---	---	American sycamore, black walnut, eastern cottonwood, eastern white pine, green ash, sugar maple, sweetgum, tuliptree
	eastern cottonwood	105	143	
	green ash	---	---	
	sweetgum	---	---	
	tuliptree	95	100	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
LfB:				
Latham	Virginia pine	---	---	Virginia pine, eastern white pine, northern red oak, white ash, white oak
	black oak	---	---	
	northern red oak	63	43	
	shortleaf pine	---	---	
	white oak	---	---	
LfC:				
Latham	Virginia pine	---	---	Virginia pine, eastern white pine, northern red oak, white ash, white oak
	black oak	---	---	
	northern red oak	63	43	
	shortleaf pine	---	---	
	white oak	---	---	
Lg:				
Lenawee	pin oak	85	72	eastern white pine, Norway spruce, red maple, white ash, white spruce
	white oak	75	---	
	northern red oak	80	---	
	swamp white oak	---	---	
	white ash	---	---	
	red maple	---	---	
	silver maple	---	---	
Lk:				
Linwood	American sycamore	---	0	American sycamore, baldcypress, eastern cottonwood, green ash, pin oak, red maple, swamp white oak, sweetgum
	eastern cottonwood	---	0	
	green ash	---	0	
	pin oak	---	0	
	red maple	46	29	
Lo:				
Lobdell	black cherry	---	---	eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	87	72	
	sugar maple	---	---	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	
LrB:				
Lordstown	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	73	43	
	white ash	75	43	
LrC:				
Lordstown	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	73	43	
	white ash	75	43	
LrD:				
Lordstown	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	73	43	
	white ash	75	43	
LrE:				
Lordstown	northern red oak	60	---	eastern white pine, European larch, black cherry, red pine, Norway spruce
	sugar maple	73	---	
	white ash	75	---	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
LrF:				
Lordstown	northern red oak	60	---	eastern white pine, European larch, black cherry, red pine, Norway spruce
	sugar maple	73	---	
	white ash	75	---	
LtE:				
Lordstown	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	73	43	
	white ash	75	43	
Loudonville	black cherry	---	---	black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
	black oak	---	---	
	black walnut	---	---	
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	
LtF:				
Lordstown	northern red oak	70	57	European larch, Norway spruce, eastern white pine, red pine
	sugar maple	73	43	
	white ash	75	43	
Loudonville	black cherry	---	---	black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
	black oak	---	---	
	black walnut	---	---	
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	
LvB:				
Loudonville	black cherry	---	---	black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
	black oak	---	---	
	black walnut	---	---	
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	
LvC:				
Loudonville	black cherry	---	---	black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
	black oak	---	---	
	black walnut	---	---	
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	75	57	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
LvD:				
Loudonville	black cherry	---	---	black walnut,
	black oak	---	---	eastern white
	black walnut	---	---	pine, northern red
	northern red oak	80	57	oak, red pine,
	sugar maple	---	---	tuliptree, white
	tuliptree	---	---	ash, white oak
	white ash	---	---	
	white oak	75	57	
Ly:				
Luray	black cherry	---	---	American sycamore,
	eastern cottonwood	---	---	baldcypress,
	green ash	---	---	eastern
	pin oak	86	72	cottonwood, green
	red maple	---	---	ash, pin oak, red
	swamp white oak	---	---	maple, silver
				maple, swamp white
				oak, sweetgum
LzB:				
Lykens	northern red oak	80	57	eastern white pine,
	tuliptree	---	---	black walnut,
	sugar maple	---	---	tuliptree
	black walnut	---	---	
MeB:				
Mentor	black cherry	---	---	black walnut,
	black walnut	---	---	eastern white
	northern red oak	86	72	pine, northern red
	sugar maple	---	---	oak, red pine,
	tuliptree	---	---	tuliptree, white
	white ash	---	---	ash, white oak
	white oak	---	---	
MeC:				
Mentor	black cherry	---	---	black walnut,
	black walnut	---	---	eastern white
	northern red oak	86	72	pine, northern red
	sugar maple	---	---	oak, red pine,
	tuliptree	---	---	tuliptree, white
	white ash	---	---	ash, white oak
	white oak	---	---	
Op:				
Olmsted	pin oak	86	72	red maple, white
	northern red oak	80	57	ash, white spruce
	swamp white oak	80	57	
	red maple	---	---	
	white ash	---	---	
Or:				
Orrville Variant	black cherry	---	---	eastern white pine,
	black walnut	---	---	northern red oak,
	northern red oak	80	57	red pine,
	sugar maple	---	---	tuliptree, white
	tuliptree	---	---	ash, white oak
	white ash	---	---	
	white oak	---	---	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
Pa:				
Pewamo	eastern cottonwood	98	---	Norway spruce, eastern white pine, green ash, red maple, white ash
	green ash	---	---	
	pin oak	90	72	
	red maple	71	43	
	swamp white oak	---	---	
	white ash	71	72	
Pc:				
Pewamo	eastern cottonwood	98	---	Norway spruce, eastern white pine, green ash, red maple, white ash
	green ash	---	---	
	pin oak	90	72	
	red maple	71	43	
	swamp white oak	---	---	
	white ash	71	72	
Pg:				
Pits, Gravel	---	---	---	---
Pm:				
Pewamo	eastern cottonwood	98	---	Norway spruce, eastern white pine, green ash, red maple, white ash
	green ash	---	---	
	pin oak	90	72	
	red maple	71	43	
	swamp white oak	---	---	
	white ash	71	72	
ReA:				
Ravenna	black oak	80	57	Virginia pine, eastern white pine, green ash, red pine, tuliptree
	northern red oak	80	57	
	pin oak	85	72	
	sugar maple	85	57	
	tuliptree	90	86	
ReB:				
Ravenna	black oak	80	57	Virginia pine, eastern white pine, green ash, red pine, tuliptree
	northern red oak	80	57	
	pin oak	85	72	
	sugar maple	85	57	
	tuliptree	90	86	
RsB:				
Rittman	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	90	72	
	sugar maple	70	43	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	
RsB2:				
Rittman	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	90	72	
	sugar maple	70	43	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
RsC:				
Rittman	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	90	72	
	sugar maple	70	43	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	
RsC2:				
Rittman	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	90	72	
	sugar maple	70	43	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	
RsD:				
Rittman	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	90	72	
	sugar maple	70	43	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	
RsD2:				
Rittman	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	90	72	
	sugar maple	70	43	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	
RtC3:				
Rittman	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	90	72	
	sugar maple	70	43	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
RtD3:				
Rittman	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash, white oak
	northern red oak	90	72	
	sugar maple	70	43	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	
SaC:				
Schaffenaker	Virginia pine	60	86	Japanese larch, Virginia pine, eastern white pine
	black oak	60	43	
	chestnut oak	60	43	
	scarlet oak	60	43	
SaD:				
Schaffenaker	Virginia pine	60	86	Japanese larch, Virginia pine, eastern white pine
	black oak	60	43	
	chestnut oak	60	43	
	scarlet oak	60	43	
SaE:				
Schaffenaker	Virginia pine	60	86	Japanese larch, Virginia pine, eastern white pine
	black oak	60	43	
	chestnut oak	60	43	
	scarlet oak	60	43	
SbE:				
Schaffenaker	black oak	60	43	eastern white pine, Virginia pine
	scarlet oak	60	43	
	chestnut oak	60	43	
Se:				
Sebring	black cherry	---	---	American sycamore, Norway spruce, Scotch pine, eastern cottonwood, eastern white pine, green ash, pin oak, red maple, swamp white oak, sweetgum
	eastern cottonwood	---	---	
	green ash	---	---	
	pin oak	90	72	
	red maple	---	---	
	swamp white oak	---	---	
Sh:				
Shoals	Virginia pine	90	129	pin oak, red maple, sweetgum, tuliptree
	eastern cottonwood	---	---	
	pin oak	90	72	
	sweetgum	86	100	
	tuliptree	90	86	
	white ash	---	---	
Sk:				
Shoals Variant	black cherry	---	---	eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
	black walnut	---	---	
	northern red oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
SmA:				
Sleeth	pin oak	85	67	eastern white pine, American sycamore, white ash, red maple, tuliptree
	tuliptree	85	81	
	white oak	70	52	
So:				
Sloan	eastern cottonwood	---	---	American sycamore, eastern cottonwood, green ash, pin oak, red maple, silver maple, swamp white oak, sweetgum
	green ash	---	---	
	pin oak	86	72	
	red maple	---	---	
	swamp white oak	---	---	
TmA:				
Tiro	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash
	northern red oak	85	72	
	pin oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	
TmB:				
Tiro	black cherry	---	---	American sycamore, black cherry, black locust, eastern white pine, green ash, northern red oak, red pine, tuliptree, white ash
	northern red oak	85	72	
	pin oak	80	57	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	
TvB:				
Titusville	American beech	---	---	Virginia pine, green ash, red pine, tuliptree
	American sycamore	---	---	
	northern red oak	86	72	
	slippery elm	---	---	
	sugar maple	85	57	
	white ash	---	---	
	white oak	---	---	
TvC:				
Titusville	American beech	---	---	Virginia pine, green ash, red pine, tuliptree
	American sycamore	---	---	
	northern red oak	86	72	
	slippery elm	---	---	
	sugar maple	85	57	
	white ash	---	---	
	white oak	---	---	
Uc:				
Udorthents	---	---	---	---
Ud:				
Udorthents	---	---	---	---
Ur:				
Urban Land	---	---	---	---

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
WaA:				
Wadsworth	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	black oak	85	72	
	northern red oak	85	72	
	pin oak	90	72	
	slippery elm	---	---	
	sugar maple	---	---	
	white ash	---	---	
	white oak	---	---	
WaB:				
Wadsworth	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	black oak	85	72	
	northern red oak	85	72	
	pin oak	90	72	
	slippery elm	---	---	
	sugar maple	---	---	
	white ash	---	---	
	white oak	---	---	
Wc:				
Wallkill	pin oak	70	57	eastern white pine, red maple, sweetgum, white ash
	red maple	65	43	
	sweetgum	70	57	
WeD:				
Westmoreland	eastern white pine	75	143	black walnut, eastern white pine, tuliptree
	northern red oak	81	57	
	tuliptree	90	86	
WhA:				
Wheeling	northern red oak	80	57	black walnut, eastern white pine, tuliptree
	tuliptree	90	86	
WhB:				
Wheeling	northern red oak	80	57	black walnut, eastern white pine, tuliptree
	tuliptree	90	86	
WhC:				
Wheeling	northern red oak	80	57	black walnut, eastern white pine, tuliptree
	tuliptree	90	86	
WmD:				
Mentor	black cherry	---	---	black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak
	black walnut	---	---	
	northern red oak	86	72	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	---	---	
Wheeling	northern red oak	80	57	black walnut, eastern white pine, tuliptree
	tuliptree	90	86	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
WsB:				
Wooster	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	86	72	
	slippery elm	---	---	
	sugar maple	85	57	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	
WsB2:				
Wooster	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	86	72	
	slippery elm	---	---	
	sugar maple	85	57	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	
WsC:				
Wooster	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	86	72	
	slippery elm	---	---	
	sugar maple	85	57	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	
WsC2:				
Wooster	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	86	72	
	slippery elm	---	---	
	sugar maple	85	57	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	
WsD:				
Wooster	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	86	72	
	slippery elm	---	---	
	sugar maple	85	57	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	
WsD2:				
Wooster	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	86	72	
	slippery elm	---	---	
	sugar maple	85	57	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
WsD3:				
Wooster	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	86	72	
	slippery elm	---	---	
	sugar maple	85	57	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	
WsE:				
Wooster	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	86	72	
	slippery elm	---	---	
	sugar maple	85	57	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	
WsE2:				
Wooster	northern red oak	86	68	eastern white pine, black oak, white ash, Virginia pine, red pine
	tuliptree	96	100	
	sugar maple	85	52	
	white oak	---	---	
	white ash	---	---	
	American beech	---	---	
WsF:				
Wooster	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	86	72	
	slippery elm	---	---	
	sugar maple	85	57	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	
WtB:				
Wooster	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	86	72	
	slippery elm	---	---	
	sugar maple	85	57	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	
Chili	black cherry	---	---	Norway spruce, Scotch pine, black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	black walnut	---	---	
	northern red oak	85	72	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	80	57	

TABLE 14.--WOODLAND PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber (cu ft/ac)	Trees to manage
WtC:				
Wooster	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	86	72	
	slippery elm	---	---	
	sugar maple	85	57	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	
Chili	black cherry	---	---	Norway spruce, Scotch pine, black walnut, eastern white pine, northern red oak, red pine, tuliptree, white ash, white oak, white spruce
	black walnut	---	---	
	northern red oak	85	72	
	sugar maple	---	---	
	tuliptree	---	---	
	white ash	---	---	
	white oak	80	57	
WvE3:				
Wooster	American beech	---	---	Virginia pine, black oak, eastern white pine, red pine, tuliptree, white ash
	American sycamore	---	---	
	northern red oak	86	72	
	slippery elm	---	---	
	sugar maple	85	57	
	tuliptree	96	100	
	white ash	---	---	
	white oak	---	---	

TABLE 15.--WINDBREAKS AND ENVIRONMENTAL PLANTINGS

(Absence of an entry indicates that trees generally do not grow to the given height. See text on page 236 for additional information.)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
AcD2:					
Alexandria	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
AdB:					
Alexandria	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
AdC:					
Alexandria	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
AdC2:					
Alexandria	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
AdD:					
Alexandria	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
AdD2:					
Alexandria	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
AdE:					
Alexandria	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
AdE2:					
Alexandria	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
AdF:					
Alexandria	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
AeD3:					
Alexandria	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
Ag:					
Algiers	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
BeB:					
Belmore	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
BeC:					
Belmore	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
BeD:					
Belmore	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---

TABLE 15.--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
BnA:					
Bennington	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
BnB:					
Bennington	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
BnB2:					
Bennington	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
BpB:					
Bennington	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
Fitchville	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
BrB:					
Berks	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
BrC:					
Berks	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
BrD:					
Berks	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
BsF:					
Berks	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
Rock outcrop	---	---	---	---	---
BtA:					
Bogart	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
BtB:					
Bogart	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
BvA:					
Bogart	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
BvB:					
Bogart	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
BwC:					
Brownsville	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---

TABLE 15.--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
BwD:					
Brownsville	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
BxE:					
Brownsville	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
Westmoreland	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
CdB:					
Canfield	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
CdB2:					
Canfield	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
CdC:					
Canfield	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
CdC2:					
Canfield	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
CgB:					
Cardington	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
CgB2:					
Cardington	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
CgC:					
Cardington	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
CgC2:					
Cardington	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
ChC3:					
Cardington	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
Ck:					
Carlisle	common ninebark; sargent crabapple; silky dogwood	American cranberrybush; common lilac; southern arrowwood	Black Hills spruce; nannyberry	eastern white pine; green ash; Norway spruce	imperial Carolina popular
CmB:					
Chili	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---

TABLE 15.--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
CnB:					
Chili	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
CnC:					
Chili	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
CoD:					
Chili	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
Conotton	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
CoD3:					
Chili	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
Conotton	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
CoE:					
Chili	---	---	---	---	---
Conotton	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
CoF:					
Chili	---	---	---	---	---
Conotton	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
Cp:					
Condit	silky dogwood	American cranberrybush	Austrian pine; blue spruce; northern white-cedar; Washington hawthorn; white fir	eastern white pine; Norway spruce	pin oak
Cr:					
Condit	silky dogwood	American cranberrybush	Austrian pine; blue spruce; northern white-cedar; Washington hawthorn; white fir	eastern white pine; Norway spruce	pin oak
Cs:					
Condit	silky dogwood	American cranberrybush	Austrian pine; blue spruce; northern white-cedar; Washington hawthorn; white fir	eastern white pine; Norway spruce	pin oak
Bennington	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
CtC:					
Conotton	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
CvC:					
Coshocton	silky dogwood	American cranberrybush; Amur honeysuckle	Amur privet; blue spruce; eastern arborvitae; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak

TABLE 15.--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
Cz:					
Cut and fill land	---	---	---	---	---
DmB:					
Digby	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
FbA:					
Fitchville	silky dogwood	American cranberrybush; Amur honeysuckle	Amur privet; blue spruce; eastern arborvitae; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
FcA:					
Fitchville	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
FcB:					
Fitchville	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
FdA:					
Fitchville	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
Bennington	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
FgA:					
Fitchville Variant	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
FgB:					
Fitchville Variant	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
Fr:					
Frenchtown	silky dogwood	American cranberrybush	Austrian pine; blue spruce; northern white-cedar; Washington hawthorn; white fir	eastern white pine; Norway spruce	pin oak
GdB:					
Gilpin	Siberian peashrub	common lilac; eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
GdC:					
Gilpin	Siberian peashrub	common lilac; eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
GfA:					
Glenford	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
GfB:					
Glenford	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak

TABLE 15.--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
GfC:					
Glenford	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
GrB:					
Gresham	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
HaB:					
Haney	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
HfB:					
Hanover	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
HfC:					
Hanover	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pin; pin oak
HfC2:					
Hanover	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
HfC3:					
Hanover	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
HfD:					
Hanover	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
HfD2:					
Hanover	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
HfE:					
Hanover	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
Ho:					
Holly	silky dogwood	American cranberrybush	Austrian pine; blue spruce; northern white-cedar; Washington hawthorn; white fir	eastern white pine; Norway spruce	pin oak
HpB:					
Homewood	---	American cranberrybush; southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
HpC:					
Homewood	---	American cranberrybush; southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---

TABLE 15.--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
HpD2:					
Homewood	---	American cranberrybush; southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
HpE2:					
Homewood	---	American cranberrybush; southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
JtA:					
Jimtown	American cranberrybush	silky dogwood	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
KbA:					
Kibbie	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
La:					
Landes	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
Lg:					
Lenawee	silky dogwood	American cranberrybush	Austrian pine; blue spruce; northern white-cedar; Washington hawthorn; white fir	eastern white pine; Norway spruce	pin oak
LfB:					
Latham	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
LfC:					
Latham	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
Lk:					
Linwood	common ninebark; silky dogwood; whitebelle honeysuckle	nannyberry	tall purple willow	black willow; golden willow	imperial Carolina popular
Lo:					
Lobdell	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
LrB:					
Lordstown	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
LrC:					
Lordstown	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
LrD:					
Lordstown	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
LrE:					
Lordstown	Amur honeysuckle; common lilac; Siberian peashrub	autumn olive; eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---

TABLE 15.--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
LrF:					
Lordstown	Amur honeysuckle; common lilac; Siberian peashrub	autumn olive; eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
LtE:					
Lordstown	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
Loudonville	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
LtF:					
Lordstown	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
Loudonville	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
LvB:					
Loudonville	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
LvC:					
Loudonville	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
LvD:					
Loudonville	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
Ly:					
Luray	silky dogwood	American cranberrybush	Austrian pine; blue spruce; northern white-cedar; Washington hawthorn; white fir	eastern white pine; Norway spruce	pin oak
LzB:					
Lykens	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
MeB:					
Mentor	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
MeC:					
Mentor	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
Op:					
Olmsted	silky dogwood	American cranberrybush	Austrian pine; blue spruce; northern white-cedar; Washington hawthorn; white fir	eastern white pine; Norway spruce	pin oak
Or:					
Orrville Variant	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
Pa:					
Pewamo	silky dogwood	American cranberrybush	Austrian pine; blue spruce; northern white-cedar; Washington hawthorn; white fir	eastern white pine; Norway spruce	pin oak

TABLE 15.--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
Pc:					
Pewamo	silky dogwood	American cranberrybush	Austrian pine; blue spruce; northern white-cedar; Washington hawthorn; white fir	eastern white pine; Norway spruce	pin oak
Pg:					
Gravel pits	---	---	---	---	---
Pm:					
Pewamo	silky dogwood	American cranberrybush	Austrian pine; blue spruce; northern white-cedar; Washington hawthorn; white fir	eastern white pine; Norway spruce	pin oak
ReA:					
Ravenna	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
ReB:					
Ravenna	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
RsB:					
Rittman	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
RsB2:					
Rittman	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
RsC:					
Rittman	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
RsC2:					
Rittman	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
RsD:					
Rittman	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
RsD2:					
Rittman	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
RtC3:					
Rittman	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---

TABLE 15.--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
RtD3:					
Rittman	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
SaC:					
Schaffenaker	common lilac; Siberian peashrub	radiant crabapple; Washington hawthorn	Austrian pine; eastern redcedar; jack pine; red pine	eastern white pine	---
SaD:					
Schaffenaker	common lilac; Siberian peashrub	radiant crabapple; Washington hawthorn	Austrian pine; eastern redcedar; jack pine; red pine	eastern white pine	---
SaE:					
Schaffenaker	common lilac; Siberian peashrub	radiant crabapple; Washington hawthorn	Austrian pine; eastern redcedar; jack pine; red pine	eastern white pine	---
SbE:					
Schaffenaker	Amur honeysuckle; common lilac; Siberian peashrub; Tatarian honeysuckle	autumn olive; radiant crabapple; Washington hawthorn	Austrian pine; eastern redcedar; jack pine; red pine	eastern white pine	---
Se:					
Sebring	silky dogwood	American cranberrybush	Austrian pine; blue spruce; northern white-cedar; Washington hawthorn; white fir	eastern white pine; Norway spruce	pin oak
Sh:					
Shoals	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
Sk:					
Shoals Variant	silky dogwood	common lilac; radiant crabapple; Siberian peashrub	Austrian pine; eastern redcedar; jack pine; red pine; Washington hawthorn	eastern white pine	---
SmA:					
Sleeth	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
So:					
Sloan	silky dogwood	American cranberrybush	Austrian pine; blue spruce; northern white-cedar; Washington hawthorn; white fir	eastern white pine; Norway spruce	pin oak
TmA:					
Tiro	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
TmB:					
Tiro	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
TvB:					
Titusville	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---

TABLE 15.--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
TvC:					
Titusville	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
Uc:					
Udorthents	---	---	---	---	---
Ud:					
Udorthents	---	---	---	---	---
Ur:					
Urban land	---	---	---	---	---
WaA:					
Wadsworth	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
WaB:					
Wadsworth	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
Wc:					
Wallkill	silky dogwood	American cranberrybush	Austrian pine; blue spruce; northern white-cedar; Washington hawthorn; white fir	eastern white pine; Norway spruce	pin oak
WeD:					
Westmoreland	---	American cranberrybush; silky dogwood	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
WhA:					
Wheeling	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Norway spruce	Austrian pine; Eastern white pine; pine oak
WhB:					
Wheeling	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Norway spruce	Austrian pine; Eastern white pine; pine oak
WhC:					
Wheeling	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Norway spruce	Austrian pine; Eastern white pine; pin oak
WmD:					
Mentor	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Austrian pine; Norway spruce	eastern white pine; pin oak
Wheeling	silky dogwood	American cranberrybush	blue spruce; northern white-cedar; Washington hawthorn; white fir	Norway spruce	Austrian pine Eastern white pine; pin oak
WsB:					
Wooster	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---

TABLE 15.--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
WsB2:					
Wooster	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
WsC:					
Wooster	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
WsC2:					
Wooster	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
WsD:					
Wooster	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
WsD2:					
Wooster	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
WsD3:					
Wooster	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
WsE:					
Wooster	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
WsE2:					
Wooster	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
WsF:					
Wooster	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
WtB:					
Wooster	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
Chili	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---

TABLE 15.--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
WtC:					
Wooster	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---
Chili	common lilac; Siberian peashrub	eastern redcedar; radiant crabapple; Washington hawthorn	Austrian pine; eastern white pine; jack pine; red pine	---	---
WvE3:					
Wooster	American cranberrybush	southern arrowwood	Austrian pine; eastern redcedar; green ash; osageorange; Washington hawthorn	eastern white pine; pin oak	---

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text on page 237 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
AcD2:						
Alexandria	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
AdB:						
Alexandria	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21
AdC:						
Alexandria	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
AdC2:						
Alexandria	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
AdD:						
Alexandria	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
AdD2:						
Alexandria	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
AdE:						
Alexandria	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
AdE2:						
Alexandria	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
AdF:						
Alexandria	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

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
AeD3:						
Alexandria	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
Ag:						
Algiers	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
BeB:						
Belmore	Not limited		Not limited		Somewhat limited	
					Slope	0.50
BeC:						
Belmore	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
BeD:						
Belmore	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
BnA:						
Bennington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
BnB:						
Bennington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.50
BnB2:						
Bennington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.50
BpB:						
Bennington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.50
Fitchville	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	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
BrB:						
Berks	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.38	Gravel content	0.38	Gravel content	1.00
					Content of large stones	0.68
					Depth to bedrock	0.65
					Slope	0.50
BrC:						
Berks	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.38	Gravel content	0.38	Gravel content	1.00
	Slope	0.32	Slope	0.32	Slope	1.00
					Content of large stones	0.68
					Depth to bedrock	0.65
BrD:						
Berks	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Gravel content	1.00
	Gravel content	0.38	Gravel content	0.38	Slope	1.00
					Content of large stones	0.68
					Depth to bedrock	0.65
BsF:						
Berks	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Gravel content	1.00
	Gravel content	0.38	Gravel content	0.38	Slope	1.00
					Content of large stones	0.68
					Depth to bedrock	0.65
Rock Outcrop	Not Rated		Not Rated		Not Rated	
BtA:						
Bogart	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Depth to saturated zone	0.44
BtB:						
Bogart	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Slope	0.50
					Depth to saturated zone	0.44
BvA:						
Bogart	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Depth to saturated zone	0.44
BvB:						
Bogart	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Slope	0.50
					Depth to saturated zone	0.44
BwC:						
Brownsville	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.62	Gravel content	0.62	Gravel content	1.00
	Slope	0.32	Slope	0.32	Slope	1.00
					Content of large stones	0.03

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
BwD:						
Brownsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Gravel content	1.00
	Gravel content	0.62	Gravel content	0.62	Slope	1.00
					Content of large stones	0.03
BxE:						
Brownsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Gravel content	1.00
	Gravel content	0.62	Gravel content	0.62	Slope	1.00
					Content of large stones	0.03
Westmoreland	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
CdB:						
Canfield	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Slope	0.50
					Depth to saturated zone	0.44
CdB2:						
Canfield	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Slope	0.50
					Depth to saturated zone	0.44
CdC:						
Canfield	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Depth to saturated zone	0.21	Depth to saturated zone	0.44
CdC2:						
Canfield	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Depth to saturated zone	0.21	Depth to saturated zone	0.44
CgB:						
Cardington	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Restricted permeability	0.21	Slope	0.50
	Restricted permeability	0.21	Depth to saturated zone	0.21	Depth to saturated zone	0.44
					Restricted permeability	0.21
CgB2:						
Cardington	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Restricted permeability	0.21	Slope	0.50
	Restricted permeability	0.21	Depth to saturated zone	0.21	Depth to saturated zone	0.44
					Restricted permeability	0.21

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
CgC:						
Cardington	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
CgC2:						
Cardington	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
ChC3:						
Cardington	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
Ck:						
Carlisle	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Gravel content	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Gravel content	1.00	Content of organic matter	1.00	Content of organic matter	1.00
	Content of organic matter	1.00	Gravel content	1.00	Ponding	1.00
CmB:						
Chili	Not limited		Not limited		Somewhat limited	
					Slope	0.50
					Gravel content	0.06
CnB:						
Chili	Not limited		Not limited		Somewhat limited	
					Slope	0.50
CnC:						
Chili	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
CoD:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
					Content of large stones	0.03

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
CoD3:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
					Content of large stones	0.03
CoE:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
					Content of large stones	0.03
CoF:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
					Content of large stones	0.03
Cp:						
Condit	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
Cr:						
Condit	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
Cs:						
Condit	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
Bennington	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

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
CtC:						
Conotton	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.08	Slope	0.08	Gravel content	1.00
	Gravel content	0.08	Gravel content	0.08	Slope	1.00
					Content of large stones	0.03
CvC:						
Coshocton	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.43	Restricted permeability	0.43	Slope	1.00
	Slope	0.32	Slope	0.32	Restricted permeability	0.43
	Depth to saturated zone	0.10	Depth to saturated zone	0.05	Depth to saturated zone	0.10
DmB:						
Digby	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	0.13
FbA:						
Fitchville	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.84	Depth to saturated zone	0.50	Depth to saturated zone	0.84
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
FcA:						
Fitchville	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	0.21	Restricted permeability	0.21	Restricted permeability	0.21
FcB:						
Fitchville	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	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21
FdA:						
Fitchville	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	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Bennington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
FgA:						
Fitchville Variant	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	0.21	Restricted permeability	0.21	Restricted permeability	0.21

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
FgB:						
Fitchville Variant	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	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21
Fr:						
Frenchtown	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	0.21	Restricted permeability	0.21	Restricted permeability	0.21
GdB:						
Gilpin	Not limited		Not limited		Somewhat limited	
					Slope	0.50
					Gravel content	0.43
					Depth to bedrock	0.42
GdC:						
Gilpin	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
					Gravel content	0.43
					Depth to bedrock	0.42
GfA:						
Glenford	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
GfB:						
Glenford	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Restricted permeability	0.21	Slope	0.50
	Restricted permeability	0.21	Depth to saturated zone	0.21	Depth to saturated zone	0.44
					Restricted permeability	0.21
GfC:						
Glenford	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
GrB:						
Gresham	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	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
HaB:						
Haney	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Slope	0.50
					Depth to saturated zone	0.44
					Gravel content	0.06
HfB:						
Hanover	Not limited		Not limited		Somewhat limited	
					Slope	0.50
HfC:						
Hanover	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
HfC2:						
Hanover	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
HfC3:						
Hanover	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
HfD:						
Hanover	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
HfD2:						
Hanover	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
HfE:						
Hanover	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Ho:						
Holly	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
HpB:						
Homewood	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.50
HpC:						
Homewood	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
	Slope	0.32	Slope	0.32	Restricted permeability	0.96
HpD2:						
Homewood	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
HpE2:						
Homewood	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
JtA:						
Jimtown	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Gravel content	0.22
KbA:						
Kibbie	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.76	Depth to saturated zone	0.99
La:						
Landes	Very limited		Slightly limited		Somewhat limited	
	Flooding	1.00	Too sandy	0.01	Flooding	0.60
	Too sandy	0.01			Too sandy	0.01
LfB:						
Latham	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.97	Restricted permeability	0.97	Restricted permeability	0.97
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Slope	0.50
					Depth to saturated zone	0.44
					Depth to bedrock	0.29
LfC:						
Latham	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
	Depth to saturated zone	0.44	Slope	0.32	Restricted permeability	0.96
	Slope	0.32	Depth to saturated zone	0.21	Depth to saturated zone	0.44
					Depth to bedrock	0.29
Lg:						
Lenawee	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Lk:						
Linwood	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Gravel content	1.00
	Gravel content	1.00	Content of organic matter	1.00	Depth to saturated zone	1.00
	Content of organic matter	1.00	Gravel content	1.00	Content of organic matter	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
Lo:						
Lobdell	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.21	Flooding	0.60
	Depth to saturated zone	0.44			Depth to saturated zone	0.44
LrB:						
Lordstown	Not limited		Not limited		Somewhat limited	
					Slope	0.50
					Depth to bedrock	0.06
					Gravel content	0.04
LrC:						
Lordstown	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
					Depth to bedrock	0.06
					Gravel content	0.04
LrD:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.06
					Gravel content	0.04
LrE:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.42
					Gravel content	0.16
					Content of large stones	0.01
LrF:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.42
					Gravel content	0.16
					Content of large stones	0.01
LtE:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.06
					Gravel content	0.04
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.01
LtF:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.06
					Gravel content	0.04
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.01

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
LvB:						
Loudonville	Not limited		Not limited		Somewhat limited	
					Slope	0.50
					Depth to bedrock	0.01
LvC:						
Loudonville	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
					Depth to bedrock	0.01
LvD:						
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.01
Ly:						
Luray	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
LzB:						
Lykens	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.43	Restricted permeability	0.43	Slope	0.50
	Depth to saturated zone	0.10	Depth to saturated zone	0.05	Restricted permeability	0.43
					Depth to saturated zone	0.10
MeB:						
Mentor	Not limited		Not limited		Somewhat limited	
					Slope	0.50
MeC:						
Mentor	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
Op:						
Olmsted	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
Or:						
Orrville Variant	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
Pa:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
Pc:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Pg:						
Pits, Gravel	Not Rated		Not Rated		Not Rated	
Pm:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
ReA:						
Ravenna	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
ReB:						
Ravenna	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	0.50
RsB:						
Rittman	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Restricted permeability	0.21	Slope	0.50
	Restricted permeability	0.21	Depth to saturated zone	0.21	Depth to saturated zone	0.44
					Restricted permeability	0.21
RsB2:						
Rittman	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Restricted permeability	0.21	Slope	0.50
	Restricted permeability	0.21	Depth to saturated zone	0.21	Depth to saturated zone	0.44
					Restricted permeability	0.21
RsC:						
Rittman	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
RsC2:						
Rittman	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
RsD:						
Rittman	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to saturated zone	0.44	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
RsD2:						
Rittman	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to saturated zone	0.44	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
RtC3:						
Rittman	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
RtD3:						
Rittman	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to saturated zone	0.44	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
SaC:						
Schaffenaker	Somewhat limited		Somewhat limited		Very limited	
	Too sandy	0.59	Too sandy	0.59	Slope	1.00
	Slope	0.18	Slope	0.18	Depth to bedrock	0.65
					Too sandy	0.59
					Content of large stones	0.03
SaD:						
Schaffenaker	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too sandy	0.59	Too sandy	0.59	Depth to bedrock	0.65
					Too sandy	0.59
					Content of large stones	0.03

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
SaE:						
Schaffenaker	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too sandy	0.59	Too sandy	0.59	Depth to bedrock	0.65
					Too sandy	0.59
					Content of large stones	0.03
SbE:						
Schaffenaker	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.99	Restricted permeability	0.99	Slope	1.00
	Slope	0.82	Slope	0.82	Restricted permeability	0.99
	Too sandy	0.59	Too sandy	0.59	Too sandy	0.59
					Depth to bedrock	0.42
					Gravel content	0.04
Se:						
Sebring	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Sh:						
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	Ponding	1.00	Ponding	1.00
	Ponding	1.00			Flooding	0.60
Sk:						
Shoals Variant	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
SmA:						
Sleeth	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Depth to saturated zone	0.44
So:						
Sloan	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
TmA:						
Tiro	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	0.21	Restricted permeability	0.21	Restricted permeability	0.21

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
TmB:						
Tiro	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	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21
TvB:						
Titusville	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Restricted permeability	0.21	Slope	0.50
	Restricted permeability	0.21	Depth to saturated zone	0.21	Depth to saturated zone	0.44
					Restricted permeability	0.21
TvC:						
Titusville	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
Uc:						
Udorthents	Not Rated		Not Rated		Not Rated	
Ud:						
Udorthents	Not Rated		Not Rated		Not Rated	
Ur:						
Urban Land	Not Rated		Not Rated		Not Rated	
WaA:						
Wadsworth	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
WaB:						
Wadsworth	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21
Wc:						
Wallkill	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
WeD:						
Westmoreland	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
WhA:						
Wheeling	Not limited		Not limited		Not limited	
WhB:						
Wheeling	Not limited		Not limited		Somewhat limited	
					Slope	0.50
WhC:						
Wheeling	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
WmD:						
Mentor	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Wheeling	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WsB:						
Wooster	Not limited		Not limited		Somewhat limited	
					Slope	0.50
WsB2:						
Wooster	Not limited		Not limited		Somewhat limited	
					Slope	0.50
WsC:						
Wooster	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
WsC2:						
Wooster	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
WsD:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WsD2:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WsD3:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WsE:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WsE2:						
Wooster	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
WsF:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00

TABLE 16.--RECREATIONAL DEVELOPMENT PART 1--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
WtB:						
Wooster	Not limited		Not limited		Somewhat limited Slope	0.50
Chili	Not limited		Not limited		Somewhat limited Slope	0.50
WtC:						
Wooster	Somewhat limited Slope	0.32	Somewhat limited Slope	0.32	Very limited Slope	1.00
Chili	Somewhat limited Slope	0.32	Somewhat limited Slope	0.32	Very limited Slope	1.00
WvE3:						
Wooster	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

TABLE 17.--RECREATIONAL DEVELOPMENT PART 2

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text on page 237 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
AcD2:						
Alexandria	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
AdB:						
Alexandria	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21
AdC:						
Alexandria	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
AdC2:						
Alexandria	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
AdD:						
Alexandria	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
AdD2:						
Alexandria	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
AdE:						
Alexandria	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
AdE2:						
Alexandria	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
AdF:						
Alexandria	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

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
AeD3:						
Alexandria	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
Ag:						
Algiers	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
BeB:						
Belmore	Not limited		Not limited		Somewhat limited	
					Slope	0.50
BeC:						
Belmore	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
BeD:						
Belmore	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
BnA:						
Bennington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
BnB:						
Bennington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.50
BnB2:						
Bennington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.50
BpB:						
Bennington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.50
Fitchville	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	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
BrB:						
Berks	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.38	Gravel content	0.38	Gravel content	1.00
					Content of large stones	0.68
					Depth to bedrock	0.65
					Slope	0.50
BrC:						
Berks	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.38	Gravel content	0.38	Gravel content	1.00
	Slope	0.32	Slope	0.32	Slope	1.00
					Content of large stones	0.68
					Depth to bedrock	0.65
BrD:						
Berks	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Gravel content	1.00
	Gravel content	0.38	Gravel content	0.38	Slope	1.00
					Content of large stones	0.68
					Depth to bedrock	0.65
BsF:						
Berks	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Gravel content	1.00
	Gravel content	0.38	Gravel content	0.38	Slope	1.00
					Content of large stones	0.68
					Depth to bedrock	0.65
Rock Outcrop	Not Rated		Not Rated		Not Rated	
BtA:						
Bogart	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Depth to saturated zone	0.44
BtB:						
Bogart	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Slope	0.50
					Depth to saturated zone	0.44
BvA:						
Bogart	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Depth to saturated zone	0.44
BvB:						
Bogart	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Slope	0.50
					Depth to saturated zone	0.44
BwC:						
Brownsville	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.62	Gravel content	0.62	Gravel content	1.00
	Slope	0.32	Slope	0.32	Slope	1.00
					Content of large stones	0.03

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
BwD:						
Brownsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Gravel content	1.00
	Gravel content	0.62	Gravel content	0.62	Slope	1.00
					Content of large stones	0.03
BxE:						
Brownsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Gravel content	1.00
	Gravel content	0.62	Gravel content	0.62	Slope	1.00
					Content of large stones	0.03
Westmoreland	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
CdB:						
Canfield	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Slope	0.50
					Depth to saturated zone	0.44
CdB2:						
Canfield	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Slope	0.50
					Depth to saturated zone	0.44
CdC:						
Canfield	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Depth to saturated zone	0.21	Depth to saturated zone	0.44
CdC2:						
Canfield	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Depth to saturated zone	0.21	Depth to saturated zone	0.44
CgB:						
Cardington	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Restricted permeability	0.21	Slope	0.50
	Restricted permeability	0.21	Depth to saturated zone	0.21	Depth to saturated zone	0.44
					Restricted permeability	0.21
CgB2:						
Cardington	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Restricted permeability	0.21	Slope	0.50
	Restricted permeability	0.21	Depth to saturated zone	0.21	Depth to saturated zone	0.44
					Restricted permeability	0.21

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
CgC:						
Cardington	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
CgC2:						
Cardington	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
ChC3:						
Cardington	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
Ck:						
Carlisle	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Gravel content	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Gravel content	1.00	Content of organic matter	1.00	Content of organic matter	1.00
	Content of organic matter	1.00	Gravel content	1.00	Ponding	1.00
CmB:						
Chili	Not limited		Not limited		Somewhat limited	
					Slope	0.50
					Gravel content	0.06
CnB:						
Chili	Not limited		Not limited		Somewhat limited	
					Slope	0.50
CnC:						
Chili	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
CoD:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
					Content of large stones	0.03

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
CoD3:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
					Content of large stones	0.03
CoE:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
					Content of large stones	0.03
CoF:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Gravel content	0.08	Gravel content	0.08	Gravel content	1.00
					Content of large stones	0.03
Cp:						
Condit	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
Cr:						
Condit	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
Cs:						
Condit	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
Bennington	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

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
CtC:						
Conotton	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.08	Slope	0.08	Gravel content	1.00
	Gravel content	0.08	Gravel content	0.08	Slope	1.00
					Content of large stones	0.03
CvC:						
Coshocton	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.43	Restricted permeability	0.43	Slope	1.00
	Slope	0.32	Slope	0.32	Restricted permeability	0.43
	Depth to saturated zone	0.10	Depth to saturated zone	0.05	Depth to saturated zone	0.10
DmB:						
Digby	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	0.13
FbA:						
Fitchville	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.84	Depth to saturated zone	0.50	Depth to saturated zone	0.84
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
FcA:						
Fitchville	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	0.21	Restricted permeability	0.21	Restricted permeability	0.21
FcB:						
Fitchville	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	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21
FdA:						
Fitchville	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	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Bennington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
FgA:						
Fitchville Variant	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	0.21	Restricted permeability	0.21	Restricted permeability	0.21

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
FgB:						
Fitchville Variant	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	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21
Fr:						
Frenchtown	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	0.21	Restricted permeability	0.21	Restricted permeability	0.21
GdB:						
Gilpin	Not limited		Not limited		Somewhat limited	
					Slope	0.50
					Gravel content	0.43
					Depth to bedrock	0.42
GdC:						
Gilpin	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
					Gravel content	0.43
					Depth to bedrock	0.42
GfA:						
Glenford	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
GfB:						
Glenford	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Restricted permeability	0.21	Slope	0.50
	Restricted permeability	0.21	Depth to saturated zone	0.21	Depth to saturated zone	0.44
					Restricted permeability	0.21
GfC:						
Glenford	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
GrB:						
Gresham	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	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
HaB:						
Haney	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Slope	0.50
					Depth to saturated zone	0.44
					Gravel content	0.06
HfB:						
Hanover	Not limited		Not limited		Somewhat limited	
					Slope	0.50
HfC:						
Hanover	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
HfC2:						
Hanover	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
HfC3:						
Hanover	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
HfD:						
Hanover	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
HfD2:						
Hanover	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
HfE:						
Hanover	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Ho:						
Holly	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
HpB:						
Homewood	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
					Slope	0.50
HpC:						
Homewood	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
	Slope	0.32	Slope	0.32	Restricted permeability	0.96
HpD2:						
Homewood	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
HpE2:						
Homewood	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
JtA:						
Jimtown	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Gravel content	0.22
KbA:						
Kibbie	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	0.76	Depth to saturated zone	0.99
La:						
Landes	Very limited		Slightly limited		Somewhat limited	
	Flooding	1.00	Too sandy	0.01	Flooding	0.60
	Too sandy	0.01			Too sandy	0.01
LfB:						
Latham	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.97	Restricted permeability	0.97	Restricted permeability	0.97
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Slope	0.50
					Depth to saturated zone	0.44
					Depth to bedrock	0.29
LfC:						
Latham	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.96	Restricted permeability	0.96	Slope	1.00
	Depth to saturated zone	0.44	Slope	0.32	Restricted permeability	0.96
	Slope	0.32	Depth to saturated zone	0.21	Depth to saturated zone	0.44
					Depth to bedrock	0.29
Lg:						
Lenawee	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Lk:						
Linwood	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Gravel content	1.00
	Gravel content	1.00	Content of organic matter	1.00	Depth to saturated zone	1.00
	Content of organic matter	1.00	Gravel content	1.00	Content of organic matter	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
Lo:						
Lobdell	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.21	Flooding	0.60
	Depth to saturated zone	0.44			Depth to saturated zone	0.44
LrB:						
Lordstown	Not limited		Not limited		Somewhat limited	
					Slope	0.50
					Depth to bedrock	0.06
					Gravel content	0.04
LrC:						
Lordstown	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
					Depth to bedrock	0.06
					Gravel content	0.04
LrD:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.06
					Gravel content	0.04
LrE:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.42
					Gravel content	0.16
					Content of large stones	0.01
LrF:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.42
					Gravel content	0.16
					Content of large stones	0.01
LtE:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.06
					Gravel content	0.04
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.01
LtF:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.06
					Gravel content	0.04
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.01

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
LvB:						
Loudonville	Not limited		Not limited		Somewhat limited	
					Slope	0.50
					Depth to bedrock	0.01
LvC:						
Loudonville	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
					Depth to bedrock	0.01
LvD:						
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to bedrock	0.01
Ly:						
Luray	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
LzB:						
Lykens	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.43	Restricted permeability	0.43	Slope	0.50
	Depth to saturated zone	0.10	Depth to saturated zone	0.05	Restricted permeability	0.43
					Depth to saturated zone	0.10
MeB:						
Mentor	Not limited		Not limited		Somewhat limited	
					Slope	0.50
MeC:						
Mentor	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
Op:						
Olmsted	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
Or:						
Orrville Variant	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
Pa:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
Pc:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Pg:						
Pits, Gravel	Not Rated		Not Rated		Not Rated	
Pm:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
ReA:						
Ravenna	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
ReB:						
Ravenna	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	0.50
RsB:						
Rittman	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Restricted permeability	0.21	Slope	0.50
	Restricted permeability	0.21	Depth to saturated zone	0.21	Depth to saturated zone	0.44
					Restricted permeability	0.21
RsB2:						
Rittman	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Restricted permeability	0.21	Slope	0.50
	Restricted permeability	0.21	Depth to saturated zone	0.21	Depth to saturated zone	0.44
					Restricted permeability	0.21
RsC:						
Rittman	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
RsC2:						
Rittman	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
RsD:						
Rittman	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to saturated zone	0.44	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
RsD2:						
Rittman	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to saturated zone	0.44	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
RtC3:						
Rittman	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
RtD3:						
Rittman	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to saturated zone	0.44	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
SaC:						
Schaffenaker	Somewhat limited		Somewhat limited		Very limited	
	Too sandy	0.59	Too sandy	0.59	Slope	1.00
	Slope	0.18	Slope	0.18	Depth to bedrock	0.65
					Too sandy	0.59
					Content of large stones	0.03
SaD:						
Schaffenaker	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too sandy	0.59	Too sandy	0.59	Depth to bedrock	0.65
					Too sandy	0.59
					Content of large stones	0.03

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
SaE:						
Schaffenaker	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too sandy	0.59	Too sandy	0.59	Depth to bedrock	0.65
					Too sandy	0.59
					Content of large stones	0.03
SbE:						
Schaffenaker	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.99	Restricted permeability	0.99	Slope	1.00
	Slope	0.82	Slope	0.82	Restricted permeability	0.99
	Too sandy	0.59	Too sandy	0.59	Too sandy	0.59
					Depth to bedrock	0.42
					Gravel content	0.04
Se:						
Sebring	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
Sh:						
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	Ponding	1.00	Ponding	1.00
	Ponding	1.00			Flooding	0.60
Sk:						
Shoals Variant	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
SmA:						
Sleeth	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.21	Depth to saturated zone	0.44
So:						
Sloan	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
TmA:						
Tiro	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	0.21	Restricted permeability	0.21	Restricted permeability	0.21

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
TmB:						
Tiro	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	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21
TvB:						
Titusville	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Restricted permeability	0.21	Slope	0.50
	Restricted permeability	0.21	Depth to saturated zone	0.21	Depth to saturated zone	0.44
					Restricted permeability	0.21
TvC:						
Titusville	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Slope	0.32	Slope	1.00
	Slope	0.32	Restricted permeability	0.21	Depth to saturated zone	0.44
	Restricted permeability	0.21	Depth to saturated zone	0.21	Restricted permeability	0.21
Uc:						
Udorthents	Not Rated		Not Rated		Not Rated	
Ud:						
Udorthents	Not Rated		Not Rated		Not Rated	
Ur:						
Urban Land	Not Rated		Not Rated		Not Rated	
WaA:						
Wadsworth	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
WaB:						
Wadsworth	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Slope	0.50
					Restricted permeability	0.21
Wc:						
Wallkill	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
WeD:						
Westmoreland	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
WhA:						
Wheeling	Not limited		Not limited		Not limited	
WhB:						
Wheeling	Not limited		Not limited		Somewhat limited	
					Slope	0.50
WhC:						
Wheeling	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
WmD:						
Mentor	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Wheeling	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WsB:						
Wooster	Not limited		Not limited		Somewhat limited	
					Slope	0.50
WsB2:						
Wooster	Not limited		Not limited		Somewhat limited	
					Slope	0.50
WsC:						
Wooster	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
WsC2:						
Wooster	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.32	Slope	0.32	Slope	1.00
WsD:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WsD2:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WsD3:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WsE:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WsE2:						
Wooster	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
WsF:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00

TABLE 16.--RECREATIONAL DEVELOPMENT PART 2--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
WtB:						
Wooster	Not limited		Not limited		Somewhat limited Slope	0.50
Chili	Not limited		Not limited		Somewhat limited Slope	0.50
WtC:						
Wooster	Somewhat limited Slope	0.32	Somewhat limited Slope	0.32	Very limited Slope	1.00
Chili	Somewhat limited Slope	0.32	Somewhat limited Slope	0.32	Very limited Slope	1.00
WvE3:						
Wooster	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

TABLE 18.--WILDLIFE HABITAT

(See text on page 238 for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Potential for habitat elements							Potential as habitat for		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetlnd wildlife
AcD2:										
Alexandria	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
AdB:										
Alexandria	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
AdC:										
Alexandria	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
AdC2:										
Alexandria	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
AdD:										
Alexandria	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
AdD2:										
Alexandria	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
AdE:										
Alexandria	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
AdE2:										
Alexandria	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
AdF:										
Alexandria	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
AeD3:										
Alexandria	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Ag:										
Algiers	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
BeB:										
Belmore	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BeC:										
Belmore	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BeD:										
Belmore	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
BnA:										
Bennington	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
BnB:										
Bennington	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BnB2:										
Bennington	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

TABLE 18.--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	Wetlnd wildlife
BpB:										
Bennington	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Fitchville	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BrB:										
Berks	Poor	Fair	Fair	Poor	Poor	Poor	Very poor.	Fair	Poor	Very poor.
BrC:										
Berks	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
BrD:										
Berks	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
BsF:										
Berks	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop	---	---	---	---	---	---	---	---	---	---
BtA:										
Bogart	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BtB:										
Bogart	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BvA:										
Bogart	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BvB:										
Bogart	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BwC:										
Brownsville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BwD:										
Brownsville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Fair	Very poor.
BxE:										
Brownsville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Fair	Very poor.
Westmoreland	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
CdB:										
Canfield	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CdB2:										
Canfield	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CdC:										
Canfield	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

TABLE 18.--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	Wetlnd wildlife
CdC2:										
Canfield	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
CgB:										
Cardington	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CgB2:										
Cardington	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CgC:										
Cardington	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
CgC2:										
Cardington	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
ChC3:										
Cardington	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Ck:										
Carlisle	Fair	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
CmB:										
Chili	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CnB:										
Chili	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CnC:										
Chili	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
CoD:										
Chili	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Conotton	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
CoD3:										
Chili	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Conotton	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
CoE:										
Chili	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Conotton	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
CoF:										
Chili	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Conotton	Very poor.	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.

TABLE 18.--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	Wetlnd wildlife
Cp:										
Condit	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Cr:										
Condit	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Cs:										
Condit	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
Bennington	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
CtC:										
Conotton	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
CvC:										
Coshocton	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Cz:										
Cut and fill land	---	---	---	---	---	---	---	---	---	---
DmB:										
Digby	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
FbA:										
Fitchville	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
FcA:										
Fitchville	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
FcB:										
Fitchville	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
FdA:										
Fitchville	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Bennington	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
FgA:										
Fitchville Variant	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
FgB:										
Fitchville Variant	Fair	Good	Good	Good	Good	Fair	Very poor.	Good	Good	Poor.
Fr:										
Frenchtown	Poor	Fair	Good	Fair	Fair	Good	Good	Fair	Fair	Good.
GdB:										
Gilpin	Fair	Good	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.
GdC:										
Gilpin	Fair	Good	Good	Fair	Fair	Very poor.	Very poor.	Good	Fair	Very poor.
GfA:										
Glenford	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
GfB:										
Glenford	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
GfC:										
Glenford	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

TABLE 18.--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	Wetlnd wildlife
GrB:										
Gresham	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
HaB:										
Haney	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
HfB:										
Hanover	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
HfC:										
Hanover	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
HfC2:										
Hanover	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
HfC3:										
Hanover	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
HfD:										
Hanover	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
HfD2:										
Hanover	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
HfE:										
Hanover	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Ho:										
Holly	Fair	Fair	Poor	Fair	Fair	Good	Good	Fair	Fair	Good.
HpB:										
Homewood	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
HpC:										
Homewood	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
HpD2:										
Homewood	Poor	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
HpE2:										
Homewood	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
JtA:										
Jimtown	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
KbA:										
Kibbie	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
La:										
Landes	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Lg:										
Lenawee	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.

TABLE 18.--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	Wetlnd wildlife
LfB:										
Latham	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Poor.
LfC:										
Latham	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Lk:										
Linwood	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
Lo:										
Lobdell	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
LrB:										
Lordstown	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
LrC:										
Lordstown	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
LrD:										
Lordstown	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
LrE:										
Lordstown	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
LrF:										
Lordstown	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
LtE:										
Lordstown	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Loudonville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
LtF:										
Lordstown	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Loudonville	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
LvB:										
Loudonville	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
LvC:										
Loudonville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
LvD:										
Loudonville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Ly:										
Luray	Fair	Fair	Poor	Poor	Poor	Good	Good	Fair	Poor	Good.
LzB:										
Lykens	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

TABLE 18.--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	Wetlnd wildlife
MeB:										
Mentor	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MeC:										
Mentor	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Op:										
Olmsted	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
Or:										
Orrville Variant	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Fair.
Pa:										
Pewamo	Poor	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
Pc:										
Pewamo	Poor	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
Pg:										
Gravel pits	---	---	---	---	---	---	---	---	---	---
Pm:										
Pewamo	Poor	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
ReA:										
Ravenna	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
ReB:										
Ravenna	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
RsB:										
Rittman	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
RsB2:										
Rittman	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
RsC:										
Rittman	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
RsC2:										
Rittman	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
RsD:										
Rittman	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
RsD2:										
Rittman	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
RtC3:										
Rittman	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
RtD3:										
Rittman	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
SaC:										
Schaffenaker	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.

TABLE 18.--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	Wetlnd wildlife
SaD:										
Schaffenaker	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.
SaE:										
Schaffenaker	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.
SbE:										
Schaffenaker	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.
Se:										
Sebring	Fair	Fair	Good	Good	Good	Good	Good	Fair	Good	Good.
Sh:										
Shoals	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
Sk:										
Shoals Variant	Fair	Good	Good	Fair	Fair	Fair	Poor	Good	Fair	Poor.
SmA:										
Sleeth	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
So:										
Sloan	Fair	Fair	Fair	Poor	Poor	Good	Good	Fair	Poor	Good.
TmA:										
Tiro	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
TmB:										
Tiro	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
TvB:										
Titusville	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
TvC:										
Titusville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Ud:										
Udorthents	---	---	---	---	---	---	---	---	---	---
Ur:										
Urban land	---	---	---	---	---	---	---	---	---	---
W:										
Water	---	---	---	---	---	---	---	---	---	---
WaA:										
Wadsworth	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
WaB:										
Wadsworth	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Wc:										
Wallkill	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
WeD:										
Westmoreland	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

TABLE 18.--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	Wetlnd wildlife
WhA:										
Wheeling	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
WhB:										
Wheeling	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
WhC:										
Wheeling	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
WmD:										
Mentor	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Wheeling	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
WsB:										
Wooster	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
WsB2:										
Wooster	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
WsC:										
Wooster	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
WsC2:										
Wooster	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
WsD:										
Wooster	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
WsD2:										
Wooster	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
WsD3:										
Wooster	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
WsE:										
Wooster	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
WsE2:										
Wooster	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
WsF:										
Wooster	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
WtB:										
Wooster	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Chili	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

TABLE 18.--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	Wetlnd wildlife
WtC:										
Wooster	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Chili	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
WvE3:										
Wooster	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

TABLE 19.--CONSTRUCTION MATERIALS PART 1

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text on page 240 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
AcD2:				
Alexandria	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
AdB:				
Alexandria	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
AdC:				
Alexandria	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
AdC2:				
Alexandria	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
AdD:				
Alexandria	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
AdD2:				
Alexandria	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
AdE:				
Alexandria	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
AdE2:				
Alexandria	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
AdF:				
Alexandria	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
AeD3:				
Alexandria	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Ag:				
Algiers	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00

TABLE 19.--CONSTRUCTION MATERIALS PART 1--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
BeB:				
Belmore	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
BeC:				
Belmore	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
BeD:				
Belmore	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
BnA:				
Bennington	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
BnB:				
Bennington	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
BnB2:				
Bennington	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
BpB:				
Bennington	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Fitchville	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
BrB:				
Berks	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
BrC:				
Berks	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
BrD:				
Berks	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
BsF:				
Berks	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Rock Outcrop	Not rated		Not rated	

TABLE 19.--CONSTRUCTION MATERIALS PART 1--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
BtA:				
Bogart	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
BtB:				
Bogart	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
BvA:				
Bogart	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
BvB:				
Bogart	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
BwC:				
Brownsville	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.42
	Bottom layer	0.50	Bottom layer	0.50
BwD:				
Brownsville	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.42
	Bottom layer	0.50	Bottom layer	0.50
BxE:				
Brownsville	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.50	Bottom layer	0.50
Westmoreland	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
CdB:				
Canfield	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
CdB2:				
Canfield	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
CdC:				
Canfield	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
CdC2:				
Canfield	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
CgB:				
Cardington	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00

TABLE 19.--CONSTRUCTION MATERIALS PART 1--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
CgB2:				
Cardington	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
CgC:				
Cardington	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
CgC2:				
Cardington	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
ChC3:				
Cardington	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Ck:				
Carlisle	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
CmB:				
Chili	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.89	Bottom layer	0.85
CnB:				
Chili	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
CnC:				
Chili	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
CoD:				
Chili	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Conotton	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.50	Bottom layer	0.35
CoD3:				
Chili	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Conotton	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.50	Bottom layer	0.35

TABLE 19.--CONSTRUCTION MATERIALS PART 1--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
CoE:				
Chili	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Conotton	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.50	Bottom layer	0.35
CoF:				
Chili	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Conotton	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.50	Bottom layer	0.35
Cp:				
Condit	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Cr:				
Condit	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Cs:				
Condit	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Bennington	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
CtC:				
Conotton	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.50	Bottom layer	0.35
CvC:				
Coshocton	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
DmB:				
Digby	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
FbA:				
Fitchville	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
FcA:				
Fitchville	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00

TABLE 19.--CONSTRUCTION MATERIALS PART 1--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
FcB:				
Fitchville	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
FdA:				
Fitchville	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Bennington	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
FgA:				
Fitchville Variant	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
FgB:				
Fitchville Variant	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Fr:				
Frenchtown	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
GdB:				
Gilpin	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
GdC:				
Gilpin	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
GfA:				
Glenford	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
GfB:				
Glenford	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
GfC:				
Glenford	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
GrB:				
Gresham	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
HaB:				
Haney	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00

TABLE 19.--CONSTRUCTION MATERIALS PART 1--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
HfB:				
Hanover	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
HfC:				
Hanover	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
HfC2:				
Hanover	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
HfC3:				
Hanover	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
HfD:				
Hanover	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
HfD2:				
Hanover	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
HfE:				
Hanover	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Ho:				
Holly	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
HpB:				
Homewood	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
HpC:				
Homewood	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
HpD2:				
Homewood	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
HpE2:				
Homewood	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
JtA:				
Jimtown	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00

TABLE 19.--CONSTRUCTION MATERIALS PART 1--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
KbA:				
Kibbie	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
La:				
Landes	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
LfB:				
Latham	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
LfC:				
Latham	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Lg:				
Lenawee	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Lk:				
Linwood	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Lo:				
Lobdell	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
LrB:				
Lordstown	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
LrC:				
Lordstown	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
LrD:				
Lordstown	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
LrE:				
Lordstown	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
LrF:				
Lordstown	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00

TABLE 19.--CONSTRUCTION MATERIALS PART 1--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
LtE:				
Lordstown	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Loudonville	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
LtF:				
Lordstown	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Loudonville	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
LvB:				
Loudonville	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
LvC:				
Loudonville	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
LvD:				
Loudonville	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Ly:				
Luray	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
LzB:				
Lykens	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
MeB:				
Mentor	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
MeC:				
Mentor	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Op:				
Olmsted	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Or:				
Orrville Variant	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00

TABLE 19.--CONSTRUCTION MATERIALS PART 1--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
Pa:				
Pewamo	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Pc:				
Pewamo	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Pg:				
Pits, Gravel	Not rated		Not rated	
Pm:				
Pewamo	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
ReA:				
Ravenna	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
ReB:				
Ravenna	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
RsB:				
Rittman	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
RsB2:				
Rittman	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
RsC:				
Rittman	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
RsC2:				
Rittman	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
RsD:				
Rittman	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
RsD2:				
Rittman	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
RtC3:				
Rittman	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00

TABLE 19.--CONSTRUCTION MATERIALS PART 1--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
RtD3:				
Rittman	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
SaC:				
Schaffenaker	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.39	Bottom layer	0.50
SaD:				
Schaffenaker	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.39	Bottom layer	0.50
SaE:				
Schaffenaker	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.39	Bottom layer	0.50
SbE:				
Schaffenaker	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.43	Bottom layer	0.50
Se:				
Sebring	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Sh:				
Shoals	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Sk:				
Shoals Variant	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.39	Bottom layer	0.50
SmA:				
Sleeth	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
So:				
Sloan	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
TmA:				
Tiro	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
TmB:				
Tiro	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
TvB:				
Titusville	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00

TABLE 19.--CONSTRUCTION MATERIALS PART 1--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
TvC:				
Titusville	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Uc:				
Udorthents	Not rated		Not rated	
Ud:				
Udorthents	Not rated		Not rated	
Ur:				
Urban Land	Not rated		Not rated	
WaA:				
Wadsworth	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WaB:				
Wadsworth	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Wc:				
Wallkill	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WeD:				
Westmoreland	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WhA:				
Wheeling	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WhB:				
Wheeling	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WhC:				
Wheeling	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WmD:				
Mentor	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Wheeling	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00

TABLE 19.--CONSTRUCTION MATERIALS PART 1--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
WsB:				
Wooster	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WsB2:				
Wooster	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WsC:				
Wooster	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WsC2:				
Wooster	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WsD:				
Wooster	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WsD2:				
Wooster	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WsD3:				
Wooster	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WsE:				
Wooster	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WsE2:				
Wooster	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WsF:				
Wooster	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WtB:				
Wooster	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Chili	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00

TABLE 19.--CONSTRUCTION MATERIALS PART 1--Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
WtC:				
Wooster	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
Chili	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00
WvE3:				
Wooster	Poor		Poor	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.00

TABLE 20.--CONSTRUCTION MATERIALS PART 2

(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 on page 240 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
AcD2:						
Alexandria	Fair		Poor		Poor	
	Too clayey	0.05	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.08			Too clayey	0.03
	Water erosion	0.99			Hard to reclaim	0.29
					Rock fragments	0.97
AdB:						
Alexandria	Fair		Poor		Fair	
	Too clayey	0.32	Low strength	0.00	Too clayey	0.23
	Low content of organic matter	0.88	Shrink-swell	0.87	Hard to reclaim	0.84
	Water erosion	0.99				
AdC:						
Alexandria	Fair		Poor		Fair	
	Too clayey	0.32	Low strength	0.00	Too clayey	0.23
	Low content of organic matter	0.88	Shrink-swell	0.87	Hard to reclaim	0.84
	Water erosion	0.99			Slope	0.96
AdC2:						
Alexandria	Fair		Poor		Fair	
	Too clayey	0.32	Low strength	0.00	Too clayey	0.23
	Low content of organic matter	0.88	Shrink-swell	0.87	Hard to reclaim	0.84
	Water erosion	0.99			Slope	0.96
AdD:						
Alexandria	Fair		Poor		Poor	
	Too clayey	0.32	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.88	Shrink-swell	0.87	Too clayey	0.23
	Water erosion	0.99			Hard to reclaim	0.84
AdD2:						
Alexandria	Fair		Poor		Poor	
	Too clayey	0.32	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.88	Shrink-swell	0.87	Too clayey	0.23
	Water erosion	0.99			Hard to reclaim	0.84
AdE:						
Alexandria	Fair		Poor		Poor	
	Too clayey	0.32	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.88	Slope	0.18	Too clayey	0.23
	Water erosion	0.99	Shrink-swell	0.87	Hard to reclaim	0.84
AdE2:						
Alexandria	Fair		Poor		Poor	
	Too clayey	0.32	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.88	Slope	0.18	Too clayey	0.23
	Water erosion	0.99	Shrink-swell	0.87	Hard to reclaim	0.84

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
AdF:						
Alexandria	Fair		Poor		Poor	
	Too clayey	0.32	Slope	0.00	Slope	0.00
	Low content of organic matter	0.88	Low strength	0.00	Too clayey	0.23
	Water erosion	0.99	Shrink-swell	0.87	Hard to reclaim	0.84
AeD3:						
Alexandria	Fair		Poor		Poor	
	Too clayey	0.05	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.88	Shrink-swell	0.87	Too clayey	0.03
	Water erosion	0.99			Hard to reclaim	0.84
Ag:						
Algiers	Fair		Poor		Poor	
	Water erosion	0.99	Low strength	0.00	Depth to saturated zone	0.00
			Depth to saturated zone	0.00		
BeB:						
Belmore	Fair		Poor		Fair	
	Low content of organic matter	0.88	Low strength	0.00	Rock fragments	0.03
	Carbonate content	0.97			Hard to reclaim	0.92
BeC:						
Belmore	Fair		Poor		Fair	
	Low content of organic matter	0.88	Low strength	0.00	Rock fragments	0.03
	Carbonate content	0.97			Hard to reclaim	0.92
					Slope	0.96
BeD:						
Belmore	Fair		Poor		Poor	
	Low content of organic matter	0.88	Low strength	0.00	Slope	0.00
	Carbonate content	0.97			Rock fragments	0.03
					Hard to reclaim	0.92
BnA:						
Bennington	Fair		Poor		Poor	
	Too clayey	0.05	Low strength	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.88	Depth to saturated zone	0.00	Too clayey	0.03
	Water erosion	0.90	Shrink-swell	0.87		
BnB:						
Bennington	Fair		Poor		Poor	
	Too clayey	0.05	Low strength	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.88	Depth to saturated zone	0.00	Too clayey	0.03
	Water erosion	0.90	Shrink-swell	0.87		
BnB2:						
Bennington	Fair		Poor		Poor	
	Too clayey	0.05	Low strength	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.88	Depth to saturated zone	0.00	Too clayey	0.03
	Water erosion	0.90	Shrink-swell	0.87		

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
BpB:						
Bennington	Fair		Poor		Poor	
	Too clayey	0.05	Low strength	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.88	Depth to saturated zone	0.00	Too clayey	0.03
	Water erosion	0.90	Shrink-swell	0.87		
Fitchville	Fair		Poor		Poor	
	Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.00
	Carbonate content	0.97	Depth to saturated zone	0.00		
	Water erosion	0.99				
BrB:						
Berks	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
	Cobble content	0.11	Low strength	0.00	Depth to bedrock	0.35
	Low content of organic matter	0.12	Cobble content	0.07		
	Depth to bedrock	0.35				
BrC:						
Berks	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
	Cobble content	0.11	Low strength	0.00	Depth to bedrock	0.35
	Low content of organic matter	0.12	Cobble content	0.07	Slope	0.96
	Depth to bedrock	0.35				
BrD:						
Berks	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
	Cobble content	0.11	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.12	Cobble content	0.07	Depth to bedrock	0.35
	Depth to bedrock	0.35				
BsF:						
Berks	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
	Cobble content	0.11	Low strength	0.00	Rock fragments	0.00
	Low content of organic matter	0.12	Slope	0.00	Depth to bedrock	0.35
	Depth to bedrock	0.35	Cobble content	0.07		
Rock Outcrop	Not rated		Not rated		Not rated	
BtA:						
Bogart	Fair		Poor		Fair	
	Low content of organic matter	0.08	Low strength	0.00	Rock fragments	0.12
			Depth to saturated zone	0.53	Hard to reclaim	0.32
					Depth to saturated zone	0.53

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
BtB:						
Bogart	Fair		Poor		Fair	
	Low content of organic matter	0.08	Low strength	0.00	Rock fragments	0.12
			Depth to saturated zone	0.53	Hard to reclaim	0.32
					Depth to saturated zone	0.53
BvA:						
Bogart	Fair		Poor		Fair	
	Low content of organic matter	0.08	Low strength	0.00	Rock fragments	0.12
			Depth to saturated zone	0.53	Hard to reclaim	0.32
					Depth to saturated zone	0.53
BvB:						
Bogart	Fair		Poor		Fair	
	Low content of organic matter	0.08	Low strength	0.00	Rock fragments	0.12
			Depth to saturated zone	0.53	Hard to reclaim	0.32
					Depth to saturated zone	0.53
BwC:						
Brownsville	Fair		Poor		Poor	
	Low content of organic matter	0.08	Low strength	0.00	Rock fragments	0.00
	Droughty	0.68	Cobble content	0.42	Hard to reclaim	0.00
	Too acid	0.68	Depth to bedrock	0.96	Too acid	0.59
	Cobble content	0.99			Slope	0.96
BwD:						
Brownsville	Fair		Poor		Poor	
	Low content of organic matter	0.08	Low strength	0.00	Rock fragments	0.00
	Droughty	0.68	Cobble content	0.42	Hard to reclaim	0.00
	Too acid	0.68	Depth to bedrock	0.96	Slope	0.00
	Cobble content	0.99			Too acid	0.59
BxE:						
Brownsville	Fair		Poor		Poor	
	Too acid	0.68	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.75	Slope	0.18	Rock fragments	0.00
	Droughty	0.77	Cobble content	0.56	Hard to reclaim	0.00
	Cobble content	0.99	Depth to bedrock	0.96	Too acid	0.59
Westmoreland	Fair		Poor		Poor	
	Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
	Water erosion	0.99	Slope	0.18	Rock fragments	0.12
					Hard to reclaim	0.18
					Too acid	0.98
CdB:						
Canfield	Fair		Poor		Fair	
	Droughty	0.21	Low strength	0.00	Hard to reclaim	0.03
	Low content of organic matter	0.88	Depth to saturated zone	0.53	Depth to saturated zone	0.53
	Water erosion	0.99	Shrink-swell	0.87	Too acid	0.88

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
CdB2:						
Canfield	Fair		Poor		Fair	
	Droughty	0.21	Low strength	0.00	Hard to reclaim	0.03
	Low content of organic matter	0.88	Depth to saturated zone	0.53	Depth to saturated zone	0.53
	Water erosion	0.99	Shrink-swell	0.87	Too acid	0.88
CdC:						
Canfield	Fair		Poor		Fair	
	Droughty	0.21	Low strength	0.00	Hard to reclaim	0.03
	Low content of organic matter	0.88	Depth to saturated zone	0.53	Depth to saturated zone	0.53
	Water erosion	0.99	Shrink-swell	0.87	Too acid	0.88
					Slope	0.96
CdC2:						
Canfield	Fair		Poor		Fair	
	Droughty	0.21	Low strength	0.00	Hard to reclaim	0.03
	Low content of organic matter	0.88	Depth to saturated zone	0.53	Depth to saturated zone	0.53
	Water erosion	0.99	Shrink-swell	0.87	Too acid	0.88
					Slope	0.96
CgB:						
Cardington	Fair		Poor		Fair	
	Too clayey	0.05	Low strength	0.00	Too clayey	0.03
	Low content of organic matter	0.08	Depth to saturated zone	0.53	Depth to saturated zone	0.53
	Water erosion	0.99	Shrink-swell	0.92	Hard to reclaim	0.84
					Too acid	0.98
CgB2:						
Cardington	Fair		Poor		Fair	
	Too clayey	0.05	Low strength	0.00	Too clayey	0.03
	Low content of organic matter	0.08	Depth to saturated zone	0.53	Depth to saturated zone	0.53
	Water erosion	0.99	Shrink-swell	0.92	Hard to reclaim	0.84
					Too acid	0.98
CgC:						
Cardington	Fair		Poor		Fair	
	Too clayey	0.05	Low strength	0.00	Too clayey	0.03
	Low content of organic matter	0.08	Depth to saturated zone	0.53	Depth to saturated zone	0.53
	Water erosion	0.99	Shrink-swell	0.92	Hard to reclaim	0.84
					Slope	0.96
					Too acid	0.98
CgC2:						
Cardington	Fair		Poor		Fair	
	Too clayey	0.05	Low strength	0.00	Too clayey	0.03
	Low content of organic matter	0.08	Depth to saturated zone	0.53	Depth to saturated zone	0.53
	Water erosion	0.99	Shrink-swell	0.92	Hard to reclaim	0.84
					Slope	0.96
					Too acid	0.98
ChC3:						
Cardington	Fair		Poor		Fair	
	Too clayey	0.05	Low strength	0.00	Too clayey	0.03
	Low content of organic matter	0.08	Depth to saturated zone	0.53	Depth to saturated zone	0.53
	Water erosion	0.99	Shrink-swell	0.92	Hard to reclaim	0.84
					Slope	0.96
					Too acid	0.98

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
Ck:						
Carlisle	Poor		Poor		Poor	
	Wind erosion	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00	Hard to reclaim	0.00
			Shrink-swell	0.87	Rock fragments	0.00
					Content of organic matter	0.00
CmB:						
Chili	Fair		Poor		Poor	
	Low content of organic matter	0.88	Low strength	0.00	Rock fragments	0.00
					Hard to reclaim	0.68
CnB:						
Chili	Fair		Poor		Poor	
	Droughty	0.80	Low strength	0.00	Hard to reclaim	0.00
	Low content of organic matter	0.88			Rock fragments	0.00
					Too acid	0.95
CnC:						
Chili	Fair		Poor		Poor	
	Droughty	0.80	Low strength	0.00	Hard to reclaim	0.00
	Low content of organic matter	0.88			Rock fragments	0.00
					Too acid	0.95
					Slope	0.96
CoD:						
Chili	Fair		Poor		Poor	
	Droughty	0.80	Low strength	0.00	Hard to reclaim	0.00
	Low content of organic matter	0.88			Slope	0.00
					Rock fragments	0.00
					Too acid	0.95
Conotton	Fair		Poor		Poor	
	Droughty	0.22	Low strength	0.00	Hard to reclaim	0.00
	Low content of organic matter	0.88			Rock fragments	0.00
					Slope	0.00
CoD3:						
Chili	Fair		Poor		Poor	
	Droughty	0.80	Low strength	0.00	Hard to reclaim	0.00
	Low content of organic matter	0.88			Slope	0.00
					Rock fragments	0.00
					Too acid	0.95
Conotton	Fair		Poor		Poor	
	Droughty	0.22	Low strength	0.00	Hard to reclaim	0.00
	Low content of organic matter	0.88			Rock fragments	0.00
					Slope	0.00

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
CoE:						
Chili	Fair		Poor		Poor	
	Droughty	0.80	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.88	Slope	0.18	Hard to reclaim	0.00
					Rock fragments	0.00
					Too acid	0.95
Conotton	Fair		Poor		Poor	
	Droughty	0.22	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.88	Slope	0.18	Hard to reclaim	0.00
					Rock fragments	0.00
CoF:						
Chili	Fair		Poor		Poor	
	Droughty	0.80	Slope	0.00	Slope	0.00
	Low content of organic matter	0.88	Low strength	0.00	Hard to reclaim	0.00
					Rock fragments	0.00
					Too acid	0.95
Conotton	Fair		Poor		Poor	
	Droughty	0.22	Slope	0.00	Slope	0.00
	Low content of organic matter	0.88	Low strength	0.00	Hard to reclaim	0.00
					Rock fragments	0.00
Cp:						
Condit	Poor		Poor		Poor	
	Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.87		
Cr:						
Condit	Fair		Poor		Poor	
	Too clayey	0.02	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Low strength	0.00	Too clayey	0.02
			Shrink-swell	0.87		
Cs:						
Condit	Fair		Poor		Poor	
	Too clayey	0.02	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.88	Low strength	0.00	Too clayey	0.01
	Water erosion	0.99	Shrink-swell	0.87		
Bennington	Fair		Poor		Poor	
	Too clayey	0.05	Low strength	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.88	Depth to saturated zone	0.00	Too clayey	0.03
	Water erosion	0.90	Shrink-swell	0.99		
CtC:						
Conotton	Fair		Poor		Poor	
	Droughty	0.22	Low strength	0.00	Hard to reclaim	0.00
	Low content of organic matter	0.88			Rock fragments	0.00

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
CvC:						
Coshocton	Fair		Poor		Fair	
	Too acid	0.68	Low strength	0.00	Rock fragments	0.50
	Low content of organic matter	0.75	Depth to saturated zone	0.76	Too acid	0.59
	Water erosion	0.99			Depth to saturated zone	0.76
					Slope	0.96
DmB:						
Digby	Fair		Poor		Poor	
	Low content of organic matter	0.08	Low strength	0.00	Depth to saturated zone	0.00
	Carbonate content	0.92	Depth to saturated zone	0.00		
FbA:						
Fitchville	Fair		Poor		Fair	
	Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.29
	Water erosion	0.99	Depth to saturated zone	0.29		
			Shrink-swell	0.97		
FcA:						
Fitchville	Fair		Poor		Poor	
	Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Depth to saturated zone	0.00		
FcB:						
Fitchville	Fair		Poor		Poor	
	Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Depth to saturated zone	0.00		
FdA:						
Fitchville	Fair		Poor		Poor	
	Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Depth to saturated zone	0.00		
Bennington	Fair		Poor		Poor	
	Too clayey	0.05	Low strength	0.00	Depth to saturated zone	0.00
	Low content of organic matter	0.88	Depth to saturated zone	0.00	Too clayey	0.03
	Water erosion	0.90	Shrink-swell	0.87		
FgA:						
Fitchville Variant	Fair		Poor		Poor	
	Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Depth to saturated zone	0.00	Hard to reclaim	0.68

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
FgB:						
Fitchville Variant	Fair		Poor		Poor	
	Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Depth to saturated zone	0.00	Hard to reclaim	0.68
Fr:						
Frenchtown	Fair		Poor		Poor	
	Droughty	0.43	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Low strength	0.00		
			Shrink-swell	0.94		
GdB:						
Gilpin	Fair		Poor		Poor	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Rock fragments	0.00
	Droughty	0.44	Low strength	0.00	Depth to bedrock	0.58
	Depth to bedrock	0.58			Too acid	0.92
GdC:						
Gilpin	Fair		Poor		Poor	
	Low content of organic matter	0.12	Depth to bedrock	0.00	Rock fragments	0.00
	Droughty	0.44	Low strength	0.00	Depth to bedrock	0.58
	Depth to bedrock	0.58			Too acid	0.92
					Slope	0.96
GfA:						
Glenford	Fair		Poor		Fair	
	Low content of organic matter	0.08	Low strength	0.00	Depth to saturated zone	0.53
	Water erosion	0.90	Depth to saturated zone	0.53		
GfB:						
Glenford	Fair		Poor		Fair	
	Low content of organic matter	0.08	Low strength	0.00	Depth to saturated zone	0.53
	Water erosion	0.90	Depth to saturated zone	0.53		
GfC:						
Glenford	Fair		Poor		Fair	
	Low content of organic matter	0.08	Low strength	0.00	Depth to saturated zone	0.53
	Water erosion	0.90	Depth to saturated zone	0.53	Slope	0.96
GrB:						
Gresham	Fair		Poor		Poor	
	Droughty	0.40	Low strength	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Depth to saturated zone	0.00	Hard to reclaim	0.05
HaB:						
Haney	Fair		Poor		Fair	
	Low content of organic matter	0.24	Low strength	0.00	Depth to saturated zone	0.53
			Depth to saturated zone	0.53	Hard to reclaim	0.92
					Rock fragments	0.97

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
HfB:						
Hanover	Fair		Poor		Fair	
	Droughty	0.17	Low strength	0.00	Hard to reclaim	0.03
	Low content of organic matter	0.75	Shrink-swell	0.87		
	Water erosion	0.99				
HfC:						
Hanover	Fair		Poor		Fair	
	Droughty	0.17	Low strength	0.00	Hard to reclaim	0.03
	Low content of organic matter	0.75	Shrink-swell	0.87	Slope	0.96
	Water erosion	0.99				
HfC2:						
Hanover	Fair		Poor		Fair	
	Droughty	0.17	Low strength	0.00	Hard to reclaim	0.03
	Low content of organic matter	0.75	Shrink-swell	0.87	Slope	0.96
	Water erosion	0.99				
HfC3:						
Hanover	Fair		Poor		Fair	
	Droughty	0.17	Low strength	0.00	Hard to reclaim	0.03
	Low content of organic matter	0.75	Shrink-swell	0.87	Slope	0.96
	Water erosion	0.99				
HfD:						
Hanover	Fair		Poor		Poor	
	Droughty	0.17	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.75	Shrink-swell	0.87	Hard to reclaim	0.03
	Water erosion	0.99				
HfD2:						
Hanover	Fair		Poor		Poor	
	Droughty	0.17	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.75	Shrink-swell	0.87	Hard to reclaim	0.03
	Water erosion	0.99				
HfE:						
Hanover	Fair		Poor		Poor	
	Droughty	0.17	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.75	Slope	0.18	Hard to reclaim	0.03
	Water erosion	0.99	Shrink-swell	0.87		
Ho:						
Holly	Fair		Poor		Poor	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00		
HpB:						
Homewood	Fair		Poor		Fair	
	Low content of organic matter	0.24	Low strength	0.00	Hard to reclaim	0.46
	Water erosion	0.99			Too acid	0.98

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
HpC:						
Homewood	Fair		Poor		Fair	
	Low content of organic matter	0.24	Low strength	0.00	Hard to reclaim	0.46
	Water erosion	0.99			Slope	0.96
					Too acid	0.98
HpD2:						
Homewood	Fair		Poor		Poor	
	Low content of organic matter	0.24	Low strength	0.00	Slope	0.00
	Water erosion	0.99			Hard to reclaim	0.46
					Too acid	0.98
HpE2:						
Homewood	Fair		Poor		Poor	
	Low content of organic matter	0.24	Low strength	0.00	Slope	0.00
	Water erosion	0.99	Slope	0.18	Hard to reclaim	0.46
					Too acid	0.98
JtA:						
Jimtown	Fair		Poor		Poor	
	Low content of organic matter	0.88	Low strength	0.00	Rock fragments	0.00
			Depth to saturated zone	0.00	Hard to reclaim	0.00
					Depth to saturated zone	0.00
KbA:						
Kibbie	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.14
	Carbonate content	0.84	Depth to saturated zone	0.14		
	Water erosion	0.90				
La:						
Landes	Fair		Poor		Good	
	Low content of organic matter	0.50	Low strength	0.00		
	Droughty	0.99				
LfB:						
Latham	Fair		Poor		Fair	
	Too clayey	0.02	Depth to bedrock	0.00	Too clayey	0.01
	Too acid	0.50	Low strength	0.00	Too acid	0.50
	Low content of organic matter	0.68	Shrink-swell	0.12	Depth to saturated zone	0.53
	Depth to bedrock	0.71	Depth to saturated zone	0.53	Depth to bedrock	0.71
	Water erosion	0.90				
LfC:						
Latham	Fair		Poor		Fair	
	Too clayey	0.02	Depth to bedrock	0.00	Too clayey	0.01
	Too acid	0.50	Low strength	0.00	Too acid	0.50
	Low content of organic matter	0.68	Shrink-swell	0.12	Depth to saturated zone	0.53
	Depth to bedrock	0.71	Depth to saturated zone	0.53	Depth to bedrock	0.71
	Water erosion	0.90			Slope	0.96

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
Lg:						
Lenawee	Fair		Poor		Poor	
	Too clayey	0.02	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Carbonate content	0.92	Low strength	0.00	Too clayey	0.02
	Water erosion	0.99	Shrink-swell	0.98		
Lk:						
Linwood	Poor		Poor		Poor	
	Wind erosion	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00	Rock fragments	0.00
			Shrink-swell	0.99	Content of organic matter	0.00
Lo:						
Lobdell	Fair		Poor		Fair	
	Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.53
	Water erosion	0.99	Depth to saturated zone	0.53		
LrB:						
Lordstown	Fair		Poor		Fair	
	Low content of organic matter	0.88	Depth to bedrock	0.00	Rock fragments	0.28
	Depth to bedrock	0.93	Low strength	0.00	Depth to bedrock	0.93
	Droughty	0.99				
LrC:						
Lordstown	Fair		Poor		Fair	
	Low content of organic matter	0.88	Depth to bedrock	0.00	Rock fragments	0.28
	Depth to bedrock	0.93	Low strength	0.00	Depth to bedrock	0.93
	Droughty	0.99			Slope	0.96
LrD:						
Lordstown	Fair		Poor		Poor	
	Low content of organic matter	0.88	Depth to bedrock	0.00	Slope	0.00
	Depth to bedrock	0.93	Low strength	0.00	Rock fragments	0.28
	Droughty	0.99			Depth to bedrock	0.93
LrE:						
Lordstown	Fair		Poor		Poor	
	Droughty	0.08	Depth to bedrock	0.00	Slope	0.00
	Depth to bedrock	0.58	Slope	0.00	Rock fragments	0.00
	Low content of organic matter	0.88	Low strength	0.00	Depth to bedrock	0.58
					Too acid	0.98
LrF:						
Lordstown	Fair		Poor		Poor	
	Droughty	0.08	Depth to bedrock	0.00	Slope	0.00
	Depth to bedrock	0.58	Slope	0.00	Rock fragments	0.00
	Low content of organic matter	0.88	Low strength	0.00	Depth to bedrock	0.58
					Too acid	0.98

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
LtE:						
Lordstown	Fair		Poor		Poor	
	Low content of organic matter	0.88	Depth to bedrock	0.00	Slope	0.00
	Depth to bedrock	0.93	Low strength	0.00	Rock fragments	0.28
	Droughty	0.99	Slope	0.18	Depth to bedrock	0.93
Loudonville	Fair		Poor		Poor	
	Depth to bedrock	0.99	Depth to bedrock	0.00	Slope	0.00
			Low strength	0.00	Depth to bedrock	0.99
			Slope	0.18		
LtF:						
Lordstown	Fair		Poor		Poor	
	Low content of organic matter	0.88	Depth to bedrock	0.00	Slope	0.00
	Depth to bedrock	0.93	Slope	0.00	Rock fragments	0.28
	Droughty	0.99	Low strength	0.00	Depth to bedrock	0.93
Loudonville	Fair		Poor		Poor	
	Depth to bedrock	0.99	Depth to bedrock	0.00	Slope	0.00
			Slope	0.00	Depth to bedrock	0.99
			Low strength	0.00		
LvB:						
Loudonville	Fair		Poor		Fair	
	Depth to bedrock	0.99	Depth to bedrock	0.00	Depth to bedrock	0.99
			Low strength	0.00		
LvC:						
Loudonville	Fair		Poor		Fair	
	Depth to bedrock	0.99	Depth to bedrock	0.00	Slope	0.96
			Low strength	0.00	Depth to bedrock	0.99
LvD:						
Loudonville	Fair		Poor		Poor	
	Depth to bedrock	0.99	Depth to bedrock	0.00	Slope	0.00
			Low strength	0.00	Depth to bedrock	0.99
Ly:						
Luray	Fair		Poor		Poor	
	Low content of organic matter	0.88	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00		
			Shrink-swell	0.38		
LzB:						
Lykens	Fair		Poor		Fair	
	Low content of organic matter	0.08	Low strength	0.00	Depth to saturated zone	0.76
	Water erosion	0.99	Depth to saturated zone	0.76	Too acid	0.98
MeB:						
Mentor	Fair		Poor		Fair	
	Low content of organic matter	0.24	Low strength	0.00	Too acid	0.98
	Water erosion	0.99				
MeC:						
Mentor	Fair		Poor		Fair	
	Low content of organic matter	0.24	Low strength	0.00	Slope	0.96
	Water erosion	0.99			Too acid	0.98

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
Op:						
Olmsted	Good		Poor		Poor	
			Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00	Rock fragments	0.88
Or:						
Orrville Variant	Fair		Poor		Poor	
	Droughty	0.06	Depth to bedrock	0.00	Rock fragments	0.00
	Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.00
	Depth to bedrock	0.99	Depth to saturated zone	0.00	Depth to bedrock	0.99
Pa:						
Pewamo	Fair		Poor		Poor	
	Too clayey	0.02	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Carbonate content	0.80	Low strength	0.00	Too clayey	0.02
			Shrink-swell	0.40		
Pc:						
Pewamo	Fair		Poor		Poor	
	Too clayey	0.02	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Carbonate content	0.80	Low strength	0.00	Too clayey	0.02
			Shrink-swell	0.40		
Pg:						
Pits, Gravel	Not rated		Not rated		Not rated	
Pm:						
Pewamo	Fair		Poor		Poor	
	Too clayey	0.02	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Carbonate content	0.80	Low strength	0.00	Too clayey	0.02
			Shrink-swell	0.40		
ReA:						
Ravenna	Fair		Poor		Poor	
	Droughty	0.55	Low strength	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Depth to saturated zone	0.00	Hard to reclaim	0.05
ReB:						
Ravenna	Fair		Poor		Poor	
	Droughty	0.55	Low strength	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Depth to saturated zone	0.00	Hard to reclaim	0.05
RsB:						
Rittman	Fair		Poor		Poor	
	Droughty	0.07	Low strength	0.00	Hard to reclaim	0.00
	Water erosion	0.90	Depth to saturated zone	0.53	Depth to saturated zone	0.53
			Shrink-swell	0.99	Too acid	0.95

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
RsB2:						
Rittman	Fair		Poor		Poor	
	Droughty	0.07	Low strength	0.00	Hard to reclaim	0.00
	Water erosion	0.90	Depth to saturated zone	0.53	Depth to saturated zone	0.53
			Shrink-swell	0.99	Too acid	0.95
RsC:						
Rittman	Fair		Poor		Poor	
	Droughty	0.07	Low strength	0.00	Hard to reclaim	0.00
	Water erosion	0.90	Depth to saturated zone	0.53	Depth to saturated zone	0.53
			Shrink-swell	0.99	Too acid	0.95
					Slope	0.96
RsC2:						
Rittman	Fair		Poor		Poor	
	Droughty	0.07	Low strength	0.00	Hard to reclaim	0.00
	Water erosion	0.90	Depth to saturated zone	0.53	Depth to saturated zone	0.53
			Shrink-swell	0.99	Too acid	0.95
					Slope	0.96
RsD:						
Rittman	Fair		Poor		Poor	
	Droughty	0.07	Low strength	0.00	Hard to reclaim	0.00
	Water erosion	0.90	Depth to saturated zone	0.53	Slope	0.00
			Shrink-swell	0.99	Depth to saturated zone	0.53
					Too acid	0.95
RsD2:						
Rittman	Fair		Poor		Poor	
	Droughty	0.07	Low strength	0.00	Hard to reclaim	0.00
	Water erosion	0.90	Depth to saturated zone	0.53	Slope	0.00
			Shrink-swell	0.99	Depth to saturated zone	0.53
					Too acid	0.95
RtC3:						
Rittman	Fair		Poor		Poor	
	Droughty	0.07	Low strength	0.00	Hard to reclaim	0.00
	Low content of organic matter	0.88	Depth to saturated zone	0.53	Depth to saturated zone	0.53
	Water erosion	0.90	Shrink-swell	0.99	Too acid	0.95
					Slope	0.96
RtD3:						
Rittman	Fair		Poor		Poor	
	Droughty	0.07	Low strength	0.00	Hard to reclaim	0.00
	Low content of organic matter	0.88	Depth to saturated zone	0.53	Slope	0.00
	Water erosion	0.90	Shrink-swell	0.99	Depth to saturated zone	0.53
					Too acid	0.95

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
SaC:						
Schaffenaker	Poor		Poor		Fair	
	Wind erosion	0.00	Depth to bedrock	0.00	Too sandy	0.15
	Droughty	0.00	Low strength	0.00	Depth to bedrock	0.35
	Low content of organic matter	0.12			Too acid	0.88
	Too sandy	0.15			Rock fragments	0.95
	Depth to bedrock	0.35				
SaD:						
Schaffenaker	Poor		Poor		Poor	
	Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
	Droughty	0.00	Low strength	0.00	Too sandy	0.15
	Low content of organic matter	0.12			Depth to bedrock	0.35
	Too sandy	0.15			Too acid	0.88
	Depth to bedrock	0.35			Rock fragments	0.95
SaE:						
Schaffenaker	Poor		Poor		Poor	
	Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
	Droughty	0.00	Low strength	0.00	Too sandy	0.15
	Low content of organic matter	0.12	Slope	0.00	Depth to bedrock	0.35
	Too sandy	0.15			Too acid	0.88
	Depth to bedrock	0.35			Rock fragments	0.95
SbE:						
Schaffenaker	Poor		Poor		Fair	
	Wind erosion	0.00	Depth to bedrock	0.00	Too sandy	0.15
	Droughty	0.00	Low strength	0.00	Slope	0.37
	Too sandy	0.15			Depth to bedrock	0.58
	Depth to bedrock	0.58			Too acid	0.59
	Too acid	0.68			Rock fragments	0.97
Se:						
Sebring	Fair		Poor		Poor	
	Low content of organic matter	0.08	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Low strength	0.00		
Sh:						
Shoals	Fair		Poor		Poor	
	Water erosion	0.99	Depth to saturated zone	0.00	Depth to saturated zone	0.00
			Low strength	0.00		
Sk:						
Shoals Variant	Poor		Poor		Poor	
	Too sandy	0.00	Low strength	0.00	Too sandy	0.00
	Droughty	0.09	Depth to saturated zone	0.00	Rock fragments	0.00
					Depth to saturated zone	0.00
					Hard to reclaim	0.32
SmA:						
Sleeth	Fair		Poor		Fair	
	Carbonate content	0.03	Low strength	0.00	Depth to saturated zone	0.53
	Low content of organic matter	0.88	Depth to saturated zone	0.53		
			Shrink-swell	0.87		

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
So:						
Sloan	Fair		Poor		Poor	
	Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Carbonate content	0.80	Low strength	0.00		
	Water erosion	0.99	Shrink-swell	0.87		
TmA:						
Tiro	Fair		Poor		Poor	
	Low content of organic matter	0.08	Low strength	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Depth to saturated zone	0.00		
			Shrink-swell	0.87		
TmB:						
Tiro	Fair		Poor		Poor	
	Low content of organic matter	0.08	Low strength	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Depth to saturated zone	0.00		
			Shrink-swell	0.87		
TvB:						
Titusville	Fair		Poor		Fair	
	Droughty	0.24	Low strength	0.00	Hard to reclaim	0.01
	Water erosion	0.99	Depth to saturated zone	0.53	Depth to saturated zone	0.53
			Shrink-swell	0.92		
TvC:						
Titusville	Fair		Poor		Fair	
	Droughty	0.24	Low strength	0.00	Hard to reclaim	0.01
	Water erosion	0.99	Depth to saturated zone	0.53	Depth to saturated zone	0.53
			Shrink-swell	0.92	Slope	0.96
Uc:						
Udorthents	Not rated		Not rated		Not rated	
Ud:						
Udorthents	Not rated		Not rated		Not rated	
Ur:						
Urban Land	Not rated		Not rated		Not rated	
WaA:						
Wadsworth	Fair		Poor		Poor	
	Droughty	0.19	Low strength	0.00	Hard to reclaim	0.00
	Water erosion	0.90	Depth to saturated zone	0.04	Depth to saturated zone	0.04
			Shrink-swell	0.98		
WaB:						
Wadsworth	Fair		Poor		Poor	
	Droughty	0.19	Low strength	0.00	Hard to reclaim	0.00
	Water erosion	0.90	Depth to saturated zone	0.04	Depth to saturated zone	0.04
			Shrink-swell	0.98		

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
Wc:						
Wallkill	Fair		Poor		Poor	
	Low content of organic matter	0.88	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Water erosion	0.99	Low strength	0.00	Hard to reclaim	0.00
			Shrink-swell	0.98		
WeD:						
Westmoreland	Fair		Poor		Poor	
	Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
	Droughty	0.98			Rock fragments	0.12
	Water erosion	0.99			Hard to reclaim	0.18
					Too acid	0.98
WhA:						
Wheeling	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Hard to reclaim	0.32
	Water erosion	0.99				
WhB:						
Wheeling	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Hard to reclaim	0.32
	Water erosion	0.99				
WhC:						
Wheeling	Fair		Poor		Fair	
	Low content of organic matter	0.12	Low strength	0.00	Hard to reclaim	0.32
	Water erosion	0.99			Slope	0.96
WmD:						
Mentor	Fair		Poor		Poor	
	Low content of organic matter	0.24	Low strength	0.00	Slope	0.00
	Water erosion	0.99			Too acid	0.98
Wheeling	Fair		Poor		Poor	
	Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
	Water erosion	0.99			Hard to reclaim	0.32
WsB:						
Wooster	Fair		Poor		Fair	
	Droughty	0.51	Low strength	0.00	Too acid	0.88
	Low content of organic matter	0.60	Shrink-swell	0.93		
	Water erosion	0.99				
WsB2:						
Wooster	Fair		Poor		Fair	
	Droughty	0.51	Low strength	0.00	Too acid	0.88
	Low content of organic matter	0.60	Shrink-swell	0.93		
	Water erosion	0.99				
WsC:						
Wooster	Fair		Poor		Fair	
	Droughty	0.51	Low strength	0.00	Too acid	0.88
	Low content of organic matter	0.60	Shrink-swell	0.93	Slope	0.96
	Water erosion	0.99				

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
WsC2:						
Wooster	Fair		Poor		Fair	
	Droughty	0.51	Low strength	0.00	Too acid	0.88
	Low content of organic matter	0.60	Shrink-swell	0.93	Slope	0.96
	Water erosion	0.99				
WsD:						
Wooster	Fair		Poor		Poor	
	Droughty	0.51	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.60	Shrink-swell	0.93	Too acid	0.88
	Water erosion	0.99				
WsD2:						
Wooster	Fair		Poor		Poor	
	Droughty	0.51	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.60	Shrink-swell	0.93	Too acid	0.88
	Water erosion	0.99				
WsD3:						
Wooster	Fair		Poor		Poor	
	Droughty	0.51	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.60	Shrink-swell	0.93	Too acid	0.88
	Water erosion	0.99				
WsE:						
Wooster	Fair		Poor		Poor	
	Droughty	0.51	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.60	Slope	0.18	Too acid	0.88
	Water erosion	0.99	Shrink-swell	0.93		
WsE2:						
Wooster	Fair		Poor		Poor	
	Low content of organic matter	0.12	Low strength	0.00	Slope	0.00
	Water erosion	0.99	Slope	0.18	Rock fragments	0.88
					Too acid	0.98
WsF:						
Wooster	Fair		Poor		Poor	
	Droughty	0.51	Slope	0.00	Slope	0.00
	Low content of organic matter	0.60	Low strength	0.00	Too acid	0.88
	Water erosion	0.99	Shrink-swell	0.93		
WtB:						
Wooster	Fair		Poor		Fair	
	Droughty	0.51	Low strength	0.00	Too acid	0.88
	Low content of organic matter	0.60	Shrink-swell	0.93		
	Water erosion	0.99				
Chili	Fair		Poor		Poor	
	Droughty	0.80	Low strength	0.00	Hard to reclaim	0.00
	Low content of organic matter	0.88			Rock fragments	0.00
					Too acid	0.95

TABLE 20.--CONSTRUCTION MATERIALS PART 2--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
WtC:						
Wooster	Fair		Poor		Fair	
	Droughty	0.51	Low strength	0.00	Too acid	0.88
	Low content of organic matter	0.60	Shrink-swell	0.93	Slope	0.96
	Water erosion	0.99				
Chili	Fair		Poor		Poor	
	Droughty	0.80	Low strength	0.00	Hard to reclaim	0.00
	Low content of organic matter	0.88			Rock fragments	0.00
					Too acid	0.95
					Slope	0.96
WvE3:						
Wooster	Fair		Poor		Poor	
	Droughty	0.51	Low strength	0.00	Slope	0.00
	Low content of organic matter	0.60	Slope	0.00	Too acid	0.88
	Water erosion	0.99	Shrink-swell	0.93		

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text on page 241 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
AcD2:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Depth to saturated zone	0.15	Shrink-swell	0.50
AdB:						
Alexandria	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.10
AdC:						
Alexandria	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
AdC2:						
Alexandria	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
AdD:						
Alexandria	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
AdD2:						
Alexandria	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
AdE:						
Alexandria	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
AdE2:						
Alexandria	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
AdF:						
Alexandria	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
AeD3:						
Alexandria	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
Ag:						
Algiers	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
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
BeB:						
Belmore	Not limited		Not limited		Somewhat limited	
					Slope	0.10
BeC:						
Belmore	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
BeD:						
Belmore	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
BnA:						
Bennington	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
BnB:						
Bennington	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
					Slope	0.10
BnB2:						
Bennington	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
					Slope	0.10
BpB:						
Bennington	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
					Slope	0.10
Fitchville	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
					Slope	0.10
BrB:						
Berks	Somewhat limited		Very limited		Somewhat limited	
	Content of large stones	0.89	Depth to bedrock	1.00	Content of large stones	0.89
	Depth to bedrock	0.01	Content of large stones	0.89	Slope	0.10
			Depth to soft bedrock	0.64	Depth to bedrock	0.01
BrC:						
Berks	Somewhat limited		Very limited		Very limited	
	Content of large stones	0.89	Depth to bedrock	1.00	Slope	1.00
	Slope	0.04	Content of large stones	0.89	Content of large stones	0.89
	Depth to bedrock	0.01	Depth to soft bedrock	0.64	Depth to bedrock	0.01
			Slope	0.04		

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
BrD:						
Berks	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Content of large stones	0.89	Slope	1.00	Content of large stones	0.89
	Depth to bedrock	0.01	Content of large stones	0.89	Depth to bedrock	0.01
			Depth to soft bedrock	0.64		
BsF:						
Berks	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Content of large stones	0.89	Depth to bedrock	1.00	Content of large stones	0.89
	Depth to bedrock	0.01	Content of large stones	0.89	Depth to bedrock	0.01
			Depth to soft bedrock	0.64		
Rock Outcrop	Not Rated		Not Rated		Not Rated	
BtA:						
Bogart	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	1.00	Depth to saturated zone	0.44
BtB:						
Bogart	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	1.00	Depth to saturated zone	0.44
					Slope	0.10
BvA:						
Bogart	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	1.00	Depth to saturated zone	0.44
BvB:						
Bogart	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	1.00	Depth to saturated zone	0.44
					Slope	0.10
BwC:						
Brownsville	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
	Content of large stones	0.01	Content of large stones	0.01	Content of large stones	0.01
BwD:						
Brownsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Content of large stones	0.01	Content of large stones	0.01	Content of large stones	0.01
BxE:						
Brownsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Westmoreland	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Slippage	1.00	Slippage	1.00	Slippage	1.00

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--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
CdB:						
Canfield	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.44	Shrink-swell	0.50	Depth to saturated zone	0.44
					Slope	0.10
CdB2:						
Canfield	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.44	Shrink-swell	0.50	Depth to saturated zone	0.44
					Slope	0.10
CdC:						
Canfield	Somewhat limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Depth to saturated zone	0.44	Shrink-swell	0.50	Shrink-swell	0.50
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.44
CdC2:						
Canfield	Somewhat limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Depth to saturated zone	0.44	Shrink-swell	0.50	Shrink-swell	0.50
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.44
CgB:						
Cardington	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.44	Shrink-swell	0.50	Depth to saturated zone	0.44
					Slope	0.10
CgB2:						
Cardington	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.44	Shrink-swell	0.50	Depth to saturated zone	0.44
					Slope	0.10
CgC:						
Cardington	Somewhat limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Depth to saturated zone	0.44	Shrink-swell	0.50	Shrink-swell	0.50
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.44

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--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
CgC2:						
Cardington	Somewhat limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Depth to saturated zone	0.44	Shrink-swell	0.50	Shrink-swell	0.50
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.44
ChC3:						
Cardington	Somewhat limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Depth to saturated zone	0.44	Shrink-swell	0.50	Shrink-swell	0.50
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.44
Ck:						
Carlisle	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
CmB:						
Chili	Not limited		Not limited		Somewhat limited	
					Slope	0.10
CnB:						
Chili	Not limited		Not limited		Somewhat limited	
					Slope	0.10
CnC:						
Chili	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
CoD:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
CoD3:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
CoE:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
CoF:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Cp:						
Condit	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
Cr:						
Condit	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Cs:						
Condit	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Bennington	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
CtC:						
Conotton	Not limited		Not limited		Somewhat limited	
					Slope	0.90
CvC:						
Coshocton	Somewhat limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Depth to saturated zone	0.10	Shrink-swell	0.50	Shrink-swell	0.50
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.10
DmB:						
Digby	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
FbA:						
Fitchville	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.84	Depth to saturated zone	1.00	Depth to saturated zone	0.84
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
FcA:						
Fitchville	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

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
FcB:						
Fitchville----------	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
					Slope	0.10
FdA:						
Fitchville----------	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
Bennington----------	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
FgA:						
Fitchville Variant--	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
FgB:						
Fitchville Variant--	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	0.10
Fr:						
Frenchtown----------	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
GdB:						
Gilpin----------	Somewhat limited		Very limited		Somewhat limited	
	Depth to bedrock	0.42	Depth to bedrock	1.00	Depth to bedrock	0.42
					Slope	0.10
GdC:						
Gilpin----------	Somewhat limited		Very limited		Very limited	
	Depth to bedrock	0.42	Depth to bedrock	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Depth to bedrock	0.42
GfA:						
Glenford----------	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.44			Depth to saturated zone	0.44
GfB:						
Glenford----------	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.44			Depth to saturated zone	0.44
					Slope	0.10

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
GfC:						
Glenford	Somewhat limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Depth to saturated zone	0.44	Slope	0.04	Shrink-swell	0.50
	Slope	0.04			Depth to saturated zone	0.44
GrB:						
Gresham	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
					Slope	0.10
HaB:						
Haney	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	1.00	Depth to saturated zone	0.44
					Slope	0.10
HfB:						
Hanover	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.10
HfC:						
Hanover	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
HfC2:						
Hanover	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
HfC3:						
Hanover	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
HfD:						
Hanover	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
HfD2:						
Hanover	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
HfE:						
Hanover	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
Ho:						
Holly	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
	Shrink-swell	0.50			Shrink-swell	0.50

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--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
HpB:						
Homewood	Not limited		Somewhat limited		Somewhat limited	
			Depth to saturated zone	0.90	Slope	0.10
HpC:						
Homewood	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Depth to saturated zone	0.90	Slope	1.00
			Slope	0.04		
HpD2:						
Homewood	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Depth to saturated zone	0.90		
HpE2:						
Homewood	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Depth to saturated zone	0.90		
JtA:						
Jimtown	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
KbA:						
Kibbie	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
La:						
Landes	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
LfB:						
Latham	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.44	Shrink-swell	1.00	Depth to saturated zone	0.44
			Depth to soft bedrock	0.29	Slope	0.10
LfC:						
Latham	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.44	Shrink-swell	1.00	Slope	1.00
	Slope	0.04	Depth to soft bedrock	0.29	Depth to saturated zone	0.44
			Slope	0.04		
Lg:						
Lenawee	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
Lk:						
Linwood	Very limited		Very limited		Very limited	
	Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
Lo:						
Lobdell	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.44	Shrink-swell	0.50	Depth to saturated zone	0.44
LrB:						
Lordstown	Somewhat limited		Very limited		Somewhat limited	
	Depth to bedrock	0.06	Depth to bedrock	1.00	Slope	0.10
					Depth to bedrock	0.06
LrC:						
Lordstown	Somewhat limited		Very limited		Very limited	
	Depth to bedrock	0.06	Depth to bedrock	1.00	Slope	1.00
	Slope	0.04	Slope	0.04	Depth to bedrock	0.06
LrD:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Depth to bedrock	0.06	Slope	1.00	Depth to bedrock	0.06
LrE:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	0.42	Depth to bedrock	1.00	Depth to bedrock	0.42
LrF:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	0.42	Depth to bedrock	1.00	Depth to bedrock	0.42
LtE:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	0.06	Depth to bedrock	1.00	Depth to bedrock	0.06
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	0.01	Depth to bedrock	1.00	Depth to bedrock	0.01
LtF:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	0.06	Depth to bedrock	1.00	Depth to bedrock	0.06
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	0.01	Depth to bedrock	1.00	Depth to bedrock	0.01
LvB:						
Loudonville	Somewhat limited		Very limited		Somewhat limited	
	Depth to bedrock	0.01	Depth to bedrock	1.00	Slope	0.10
					Depth to bedrock	0.01

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
LvC:						
Loudonville	Somewhat limited		Very limited		Very limited	
	Slope	0.04	Depth to bedrock	1.00	Slope	1.00
	Depth to bedrock	0.01	Slope	0.04	Depth to bedrock	0.01
LvD:						
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Depth to bedrock	0.01	Slope	1.00	Depth to bedrock	0.01
Ly:						
Luray	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
LzB:						
Lykens	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.10			Slope	0.10
					Depth to saturated zone	0.10
MeB:						
Mentor	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.10
MeC:						
Mentor	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
Op:						
Olmsted	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
Or:						
Orrville Variant	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
	Depth to bedrock	0.01	Depth to bedrock	1.00	Depth to bedrock	0.01
Pa:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
Pc:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
Pg:						
Pits, Gravel	Not Rated		Not Rated		Not Rated	
Pm:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
ReA:						
Ravenna	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
ReB:						
Ravenna	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
					Slope	0.10
RsB:						
Rittman	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.44	Shrink-swell	0.50	Depth to saturated zone	0.44
					Slope	0.10
RsB2:						
Rittman	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.44	Shrink-swell	0.50	Depth to saturated zone	0.44
					Slope	0.10
RsC:						
Rittman	Somewhat limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Depth to saturated zone	0.44	Shrink-swell	0.50	Shrink-swell	0.50
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.44
RsC2:						
Rittman	Somewhat limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Depth to saturated zone	0.44	Shrink-swell	0.50	Shrink-swell	0.50
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.44
RsD:						
Rittman	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50	Slope	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.44	Shrink-swell	0.50	Depth to saturated zone	0.44

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
RsD2:						
Rittman	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50	Slope	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.44	Shrink-swell	0.50	Depth to saturated zone	0.44
RtC3:						
Rittman	Somewhat limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Depth to saturated zone	0.44	Shrink-swell	0.50	Shrink-swell	0.50
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.44
RtD3:						
Rittman	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
	Shrink-swell	0.50	Slope	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.44	Shrink-swell	0.50	Depth to saturated zone	0.44
SaC:						
Schaffenaker	Somewhat limited		Very limited		Somewhat limited	
	Depth to bedrock	0.64	Depth to bedrock	1.00	Slope	0.99
	Slope	0.01	Slope	0.01	Depth to bedrock	0.64
SaD:						
Schaffenaker	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Depth to bedrock	0.64	Slope	1.00	Depth to bedrock	0.64
SaE:						
Schaffenaker	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	0.64	Depth to bedrock	1.00	Depth to bedrock	0.64
SbE:						
Schaffenaker	Somewhat limited		Very limited		Very limited	
	Slope	0.63	Depth to bedrock	1.00	Slope	1.00
	Depth to bedrock	0.42	Slope	0.63	Depth to bedrock	0.42
Se:						
Sebring	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
Sh:						
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
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
Sk:						
Shoals Variant	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
SmA:						
Sleeth	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.44	Shrink-swell	0.50	Depth to saturated zone	0.44
So:						
Sloan	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
TmA:						
Tiro	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
TmB:						
Tiro	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
					Slope	0.10
TvB:						
Titusville	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
	Depth to saturated zone	0.44	Shrink-swell	0.50	Depth to saturated zone	0.44
					Slope	0.10
TvC:						
Titusville	Somewhat limited		Very limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	1.00	Slope	1.00
	Depth to saturated zone	0.44	Shrink-swell	0.50	Shrink-swell	0.50
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.44
Uc:						
Udorthents	Not Rated		Not Rated		Not Rated	
Ud:						
Udorthents	Not Rated		Not Rated		Not Rated	
Ur:						
Urban Land	Not Rated		Not Rated		Not Rated	

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
WaA:						
Wadsworth	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
WaB:						
Wadsworth	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
					Slope	0.10
Wc:						
Wallkill	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
	Content of organic matter	1.00	Ponding	1.00	Content of organic matter	1.00
	Ponding	1.00	Shrink-swell	0.50	Ponding	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
WeD:						
Westmoreland	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WhA:						
Wheeling	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Shrink-swell	0.50
WhB:						
Wheeling	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Shrink-swell	0.50
					Slope	0.10
WhC:						
Wheeling	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Slope	0.04	Slope	1.00
	Slope	0.04			Shrink-swell	0.50
WmD:						
Mentor	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
Wheeling	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
WsB:						
Wooster	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.10
WsB2:						
Wooster	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.10

TABLE 21.--BUILDING SITE DEVELOPMENT PART 1--Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
WsC:						
Wooster	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
WsC2:						
Wooster	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
WsD:						
Wooster	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
WsD2:						
Wooster	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
WsD3:						
Wooster	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
WsE:						
Wooster	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
WsE2:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Depth to saturated zone	0.90		
WsF:						
Wooster	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
WtB:						
Wooster	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.10
Chili	Not limited		Not limited		Somewhat limited	
					Slope	0.10
WtC:						
Wooster	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
Chili	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.04	Slope	0.04	Slope	1.00
WvE3:						
Wooster	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 22.--BUILDING SITE DEVELOPMENT PART 2

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text on page 241 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
AcD2:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Depth to saturated zone	0.15		
	Frost action	0.50				
AdB:						
Alexandria	Very limited		Not limited		Not limited	
	Frost action	1.00				
	Low strength	1.00				
	Shrink-swell	0.50				
AdC:						
Alexandria	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.04	Slope	0.04
	Low strength	1.00				
	Shrink-swell	0.50				
	Slope	0.04				
AdC2:						
Alexandria	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.04	Slope	0.04
	Low strength	1.00				
	Shrink-swell	0.50				
	Slope	0.04				
AdD:						
Alexandria	Very limited		Very limited		Very limited	
	Frost action	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00				
	Slope	1.00				
	Shrink-swell	0.50				
AdD2:						
Alexandria	Very limited		Very limited		Very limited	
	Frost action	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00				
	Slope	1.00				
	Shrink-swell	0.50				
AdE:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00				
	Low strength	1.00				
	Shrink-swell	0.50				
AdE2:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00				
	Low strength	1.00				
	Shrink-swell	0.50				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
AdF:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00				
	Low strength	1.00				
	Shrink-swell	0.50				
AeD3:						
Alexandria	Very limited		Very limited		Very limited	
	Frost action	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00				
	Slope	1.00				
	Shrink-swell	0.50				
Ag:						
Algiers	Very limited		Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
BeB:						
Belmore	Somewhat limited		Not limited		Not limited	
	Frost action	0.50				
BeC:						
Belmore	Somewhat limited		Somewhat limited		Somewhat limited	
	Frost action	0.50	Slope	0.04	Slope	0.04
	Slope	0.04				
BeD:						
Belmore	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50				
BnA:						
Bennington	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
BnB:						
Bennington	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
BnB2:						
Bennington	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
BpB:						
Bennington	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
Fitchville	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
BrB:						
Berks	Somewhat limited		Very limited		Somewhat limited	
	Content of large stones	0.89	Depth to bedrock	1.00	Content of large stones	0.68
	Frost action	0.50	Content of large stones	0.89	Depth to bedrock	0.65
	Depth to bedrock	0.01	Depth to soft bedrock	0.64	Droughty	0.41
					Gravel content	0.38
BrC:						
Berks	Somewhat limited		Very limited		Somewhat limited	
	Content of large stones	0.89	Depth to bedrock	1.00	Content of large stones	0.68
	Frost action	0.50	Content of large stones	0.89	Depth to bedrock	0.65
	Slope	0.04	Depth to soft bedrock	0.64	Droughty	0.41
	Depth to bedrock	0.01	Slope	0.04	Gravel content	0.38
					Slope	0.04
BrD:						
Berks	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Content of large stones	0.89	Slope	1.00	Content of large stones	0.68
	Frost action	0.50	Content of large stones	0.89	Depth to bedrock	0.65
	Depth to bedrock	0.01	Depth to soft bedrock	0.64	Droughty	0.41
					Gravel content	0.38

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
BsF:						
Berks	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Content of large stones	0.89	Slope	1.00	Content of large stones	0.68
	Frost action	0.50	Content of large stones	0.89	Depth to bedrock	0.65
	Depth to bedrock	0.01	Depth to soft bedrock	0.64	Droughty	0.41
					Gravel content	0.38
Rock Outcrop	Not Rated		Not Rated		Not Rated	
BtA:						
Bogart	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Depth to saturated zone	0.19				
BtB:						
Bogart	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Depth to saturated zone	0.19				
BvA:						
Bogart	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Depth to saturated zone	0.19				
BvB:						
Bogart	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Depth to saturated zone	0.19				
BwC:						
Brownsville	Somewhat limited		Somewhat limited		Somewhat limited	
	Frost action	0.50	Slope	0.04	Gravel content	0.62
	Slope	0.04	Content of large stones	0.01	Slope	0.04
	Content of large stones	0.01			Content of large stones	0.03
BwD:						
Brownsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Content of large stones	0.01	Gravel content	0.62
	Content of large stones	0.01			Content of large stones	0.03

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
BxE:						
Brownsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50			Gravel content	0.62
					Content of large stones	0.03
Westmoreland	Very limited		Very limited		Very limited	
	Slippage	1.00	Slippage	1.00	Slope	1.00
	Slope	1.00	Slope	1.00		
	Frost action	0.50				
	Low strength	0.05				
CdB:						
Canfield	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Shrink-swell	0.50			Droughty	0.01
	Low strength	0.28				
	Depth to saturated zone	0.19				
CdB2:						
Canfield	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Shrink-swell	0.50			Droughty	0.01
	Low strength	0.28				
	Depth to saturated zone	0.19				
CdC:						
Canfield	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Shrink-swell	0.50	Slope	0.04	Slope	0.04
	Low strength	0.28			Droughty	0.01
	Depth to saturated zone	0.19				
	Slope	0.04				
CdC2:						
Canfield	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Shrink-swell	0.50	Slope	0.04	Slope	0.04
	Low strength	0.28			Droughty	0.01
	Depth to saturated zone	0.19				
	Slope	0.04				
CgB:						
Cardington	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				
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
CgB2:						
Cardington	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				
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
CgC:						
Cardington	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	Slope	0.04	Slope	0.04
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
	Slope	0.04				
CgC2:						
Cardington	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	Slope	0.04	Slope	0.04
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
	Slope	0.04				
ChC3:						
Cardington	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	Slope	0.04	Slope	0.04
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
	Slope	0.04				
Ck:						
Carlisle	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	Content of organic matter	1.00
	Subsidence	1.00	Content of organic matter	1.00	Gravel content	1.00
	Frost action	1.00			Depth to saturated zone	1.00
	Shrink-swell	0.50				
CmB:						
Chili	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
CnB:						
Chili	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.01
CnC:						
Chili	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.04	Cutbanks cave	1.00	Slope	0.04
			Slope	0.04	Droughty	0.01

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--Continued

Map symbol and soil name	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
CoD:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
			Slope	1.00	Droughty	0.01
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
			Slope	1.00	Droughty	0.21
					Gravel content	0.08
					Content of large stones	0.03
CoD3:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
			Slope	1.00	Droughty	0.01
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
			Slope	1.00	Droughty	0.21
					Gravel content	0.08
					Content of large stones	0.03
CoE:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
			Slope	1.00	Droughty	0.01
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
			Slope	1.00	Droughty	0.21
					Gravel content	0.08
					Content of large stones	0.03
CoF:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
			Slope	1.00	Droughty	0.01
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Cutbanks cave	1.00	Slope	1.00
			Slope	1.00	Droughty	0.21
					Gravel content	0.08
					Content of large stones	0.03
Cp:						
Condit	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				
	Shrink-swell	0.50				
Cr:						
Condit	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00				
	Ponding	1.00				
	Shrink-swell	0.50				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
Cs:						
Condit	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Ponding	1.00	Ponding	1.00
	Frost action	1.00				
	Ponding	1.00				
	Shrink-swell	0.50				
Bennington	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
CtC:						
Conotton	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.21
					Gravel content	0.08
					Content of large stones	0.03
CvC:						
Coshocton	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	0.04
	Shrink-swell	0.50	Slope	0.04	Depth to saturated zone	0.03
	Slope	0.04				
	Depth to saturated zone	0.03				
DmB:						
Digby	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00				
FbA:						
Fitchville	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.48
	Shrink-swell	0.50				
	Depth to saturated zone	0.48				
FcA:						
Fitchville	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
FcB:						
Fitchville	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
FdA:						
Fitchville	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
Bennington	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
FgA:						
Fitchville Variant	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
FgB:						
Fitchville Variant	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
Fr:						
Frenchtown	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				
	Low strength	0.90				
	Shrink-swell	0.50				
GdB:						
Gilpin	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Depth to bedrock	1.00	Depth to bedrock	0.42
	Depth to bedrock	0.42				
GdC:						
Gilpin	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Depth to bedrock	1.00	Depth to bedrock	0.42
	Depth to bedrock	0.42	Slope	0.04	Slope	0.04
	Slope	0.04				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
GfA:						
Glenford	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Low strength	0.90				
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
GfB:						
Glenford	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Low strength	0.90				
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
GfC:						
Glenford	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Low strength	0.90	Slope	0.04	Slope	0.04
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
	Slope	0.04				
GrB:						
Gresham	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
HaB:						
Haney	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Depth to saturated zone	0.19				
HfB:						
Hanover	Somewhat limited		Not limited		Somewhat limited	
	Shrink-swell	0.50			Droughty	0.01
	Frost action	0.50				
	Low strength	0.28				
HfC:						
Hanover	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Slope	0.04	Slope	0.04
	Frost action	0.50			Droughty	0.01
	Low strength	0.28				
	Slope	0.04				
HfC2:						
Hanover	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Slope	0.04	Slope	0.04
	Frost action	0.50			Droughty	0.01
	Low strength	0.28				
	Slope	0.04				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
HfC3:						
Hanover	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Slope	0.04	Slope	0.04
	Frost action	0.50			Droughty	0.01
	Low strength	0.28				
	Slope	0.04				
HfD:						
Hanover	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50			Droughty	0.01
	Frost action	0.50				
	Low strength	0.28				
HfD2:						
Hanover	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50			Droughty	0.01
	Frost action	0.50				
	Low strength	0.28				
HfE:						
Hanover	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50			Droughty	0.01
	Frost action	0.50				
	Low strength	0.28				
Ho:						
Holly	Very limited		Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Frost action	1.00				
	Shrink-swell	0.50				
	Low strength	0.05				
HpB:						
Homewood	Somewhat limited		Somewhat limited		Not limited	
	Frost action	0.50	Depth to saturated zone	0.90		
	Low strength	0.05				
HpC:						
Homewood	Somewhat limited		Somewhat limited		Somewhat limited	
	Frost action	0.50	Depth to saturated zone	0.90	Slope	0.04
	Low strength	0.05	Slope	0.04		
	Slope	0.04				
HpD2:						
Homewood	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Depth to saturated zone	0.90		
	Low strength	0.05				
HpE2:						
Homewood	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Depth to saturated zone	0.90		
	Low strength	0.05				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
JtA:						
Jimtown	Very limited		Very limited		Very limited	
	Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
KbA:						
Kibbie	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.75				
La:						
Landes	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
	Frost action	0.50	Flooding	0.60		
LfB:						
Latham	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.29
	Frost action	1.00	Depth to soft bedrock	0.29	Depth to saturated zone	0.19
	Shrink-swell	1.00				
	Depth to saturated zone	0.19				
LfC:						
Latham	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to bedrock	0.29
	Frost action	1.00	Depth to soft bedrock	0.29	Depth to saturated zone	0.19
	Shrink-swell	1.00	Slope	0.04	Slope	0.04
	Depth to saturated zone	0.19				
	Slope	0.04				
Lg:						
Lenawee	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00				
	Ponding	1.00				
	Shrink-swell	0.50				
Lk:						
Linwood	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Content of organic matter	1.00
	Subsidence	1.00	Ponding	1.00	Gravel content	1.00
	Frost action	1.00	Content of organic matter	1.00	Depth to saturated zone	1.00
	Ponding	1.00			Ponding	1.00
	Shrink-swell	0.50				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
Lo:						
Lobdell	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	0.60
	Shrink-swell	0.50	Flooding	0.60	Depth to saturated zone	0.19
	Frost action	0.50				
	Depth to saturated zone	0.19				
LrB:						
Lordstown	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Depth to bedrock	1.00	Depth to bedrock	0.06
	Depth to bedrock	0.06				
LrC:						
Lordstown	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Depth to bedrock	1.00	Depth to bedrock	0.06
	Depth to bedrock	0.06	Slope	0.04	Slope	0.04
	Slope	0.04				
LrD:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Frost action	0.50	Slope	1.00	Depth to bedrock	0.06
	Depth to bedrock	0.06				
LrE:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Frost action	0.50	Slope	1.00	Depth to bedrock	0.42
	Depth to bedrock	0.42			Droughty	0.09
					Content of large stones	0.01
LrF:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Frost action	0.50	Slope	1.00	Depth to bedrock	0.42
	Depth to bedrock	0.42			Droughty	0.09
					Content of large stones	0.01
LtE:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Frost action	0.50	Slope	1.00	Depth to bedrock	0.06
	Depth to bedrock	0.06				
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Frost action	0.50	Slope	1.00	Depth to bedrock	0.01
	Depth to bedrock	0.01				
LtF:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Frost action	0.50	Slope	1.00	Depth to bedrock	0.06
	Depth to bedrock	0.06				
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Frost action	0.50	Slope	1.00	Depth to bedrock	0.01
	Depth to bedrock	0.01				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
LvB:						
Loudonville	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Depth to bedrock	1.00	Depth to bedrock	0.01
	Depth to bedrock	0.01				
LvC:						
Loudonville	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Depth to bedrock	1.00	Slope	0.04
	Slope	0.04	Slope	0.04	Depth to bedrock	0.01
	Depth to bedrock	0.01				
LvD:						
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Frost action	0.50	Slope	1.00	Depth to bedrock	0.01
	Depth to bedrock	0.01				
Ly:						
Luray	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Ponding	1.00	Ponding	1.00
	Frost action	1.00				
	Shrink-swell	1.00				
	Ponding	1.00				
LzB:						
Lykens	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.03
	Low strength	1.00				
	Shrink-swell	0.50				
	Depth to saturated zone	0.03				
MeB:						
Mentor	Somewhat limited		Not limited		Not limited	
	Low strength	0.50				
	Shrink-swell	0.50				
	Frost action	0.50				
MeC:						
Mentor	Somewhat limited		Somewhat limited		Somewhat limited	
	Low strength	0.50	Slope	0.04	Slope	0.04
	Shrink-swell	0.50				
	Frost action	0.50				
	Slope	0.04				
Op:						
Olmsted	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00		
Or:						
Orrville Variant	Very limited		Very limited		Very limited	
	Flooding	1.00	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	0.60
	Depth to saturated zone	1.00	Flooding	0.60	Droughty	0.13
	Depth to bedrock	0.01			Depth to bedrock	0.01

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
Pa:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Ponding	1.00	Ponding	1.00
	Frost action	1.00				
	Shrink-swell	1.00				
	Ponding	1.00				
Pc:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Ponding	1.00	Ponding	1.00
	Frost action	1.00				
	Shrink-swell	1.00				
	Ponding	1.00				
Pg:						
Pits, Gravel	Not Rated		Not Rated		Not Rated	
Pm:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Ponding	1.00	Ponding	1.00
	Frost action	1.00				
	Shrink-swell	1.00				
	Ponding	1.00				
ReA:						
Ravenna	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00				
	Low strength	0.50				
	Shrink-swell	0.50				
ReB:						
Ravenna	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00				
	Low strength	0.50				
	Shrink-swell	0.50				
RsB:						
Rittman	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			Droughty	0.10
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
RsB2:						
Rittman	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			Droughty	0.10
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
RsC:						
Rittman	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	Slope	0.04	Droughty	0.10
	Shrink-swell	0.50			Slope	0.04
	Depth to saturated zone	0.19				
	Slope	0.04				
RsC2:						
Rittman	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	Slope	0.04	Droughty	0.10
	Shrink-swell	0.50			Slope	0.04
	Depth to saturated zone	0.19				
	Slope	0.04				
RsD:						
Rittman	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	1.00
	Low strength	1.00	Slope	1.00	Depth to saturated zone	0.19
	Slope	1.00			Droughty	0.10
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
RsD2:						
Rittman	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	1.00
	Low strength	1.00	Slope	1.00	Depth to saturated zone	0.19
	Slope	1.00			Droughty	0.10
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
RtC3:						
Rittman	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	Slope	0.04	Droughty	0.10
	Shrink-swell	0.50			Slope	0.04
	Depth to saturated zone	0.19				
	Slope	0.04				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
RtD3:						
Rittman	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Slope	1.00
	Low strength	1.00	Slope	1.00	Depth to saturated zone	0.19
	Slope	1.00			Droughty	0.10
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
SaC:						
Schaffenaker	Somewhat limited		Very limited		Very limited	
	Depth to bedrock	0.64	Depth to bedrock	1.00	Droughty	1.00
	Slope	0.01	Cutbanks cave	1.00	Depth to bedrock	0.65
			Slope	0.01	Content of large stones	0.03
SaD:						
Schaffenaker	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Droughty	1.00
	Depth to bedrock	0.64	Cutbanks cave	1.00	Slope	1.00
			Slope	1.00	Depth to bedrock	0.65
					Content of large stones	0.03
SaE:						
Schaffenaker	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00	Slope	1.00
	Depth to bedrock	0.64	Cutbanks cave	1.00	Droughty	1.00
			Slope	1.00	Depth to bedrock	0.65
					Content of large stones	0.03
SbE:						
Schaffenaker	Somewhat limited		Very limited		Very limited	
	Slope	0.63	Depth to bedrock	1.00	Droughty	1.00
	Depth to bedrock	0.42	Cutbanks cave	1.00	Slope	0.63
			Slope	0.63	Depth to bedrock	0.42
Se:						
Sebring	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00				
	Ponding	1.00				
	Shrink-swell	0.50				
Sh:						
Shoals	Very limited		Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Frost action	1.00	Flooding	0.60	Flooding	0.60
	Ponding	1.00				
	Low strength	0.90				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
Sk:						
Shoals Variant	Very limited		Very limited		Very limited	
	Flooding	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Droughty	0.69
	Frost action	0.50	Flooding	0.60	Flooding	0.60
SmA:						
Sleeth	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Low strength	0.90				
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
So:						
Sloan	Very limited		Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Flooding	0.80	Ponding	1.00
	Low strength	1.00				
	Ponding	1.00				
TmA:						
Tiro	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
TmB:						
Tiro	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Low strength	1.00				
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
TvB:						
Titusville	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				
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
TvC:						
Titusville	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	Slope	0.04	Slope	0.04
	Shrink-swell	0.50				
	Depth to saturated zone	0.19				
	Slope	0.04				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
Uc:						
Udorthents	Not Rated		Not Rated		Not Rated	
Ud:						
Udorthents	Not Rated		Not Rated		Not Rated	
Ur:						
Urban Land	Not Rated		Not Rated		Not Rated	
WaA:						
Wadsworth	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00			Droughty	0.01
	Depth to saturated zone	0.94				
	Shrink-swell	0.50				
WaB:						
Wadsworth	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00			Droughty	0.01
	Depth to saturated zone	0.94				
	Shrink-swell	0.50				
Wc:						
Wallkill	Very limited		Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Content of organic matter	1.00	Ponding	1.00
	Ponding	1.00	Flooding	0.80		
	Shrink-swell	0.50				
WeD:						
Westmoreland	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50				
WhA:						
Wheeling	Somewhat limited		Not limited		Not limited	
	Low strength	0.90				
	Shrink-swell	0.50				
	Frost action	0.50				
WhB:						
Wheeling	Somewhat limited		Not limited		Not limited	
	Low strength	0.90				
	Shrink-swell	0.50				
	Frost action	0.50				
WhC:						
Wheeling	Somewhat limited		Somewhat limited		Somewhat limited	
	Low strength	0.90	Slope	0.04	Slope	0.04
	Shrink-swell	0.50				
	Frost action	0.50				
	Slope	0.04				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
WmD:						
Mentor	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	0.50				
	Shrink-swell	0.50				
	Frost action	0.50				
Wheeling	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	0.90				
	Shrink-swell	0.50				
	Frost action	0.50				
WsB:						
Wooster	Somewhat limited		Not limited		Not limited	
	Shrink-swell	0.50				
	Frost action	0.50				
	Low strength	0.28				
WsB2:						
Wooster	Somewhat limited		Not limited		Not limited	
	Shrink-swell	0.50				
	Frost action	0.50				
	Low strength	0.28				
WsC:						
Wooster	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Slope	0.04	Slope	0.04
	Frost action	0.50				
	Low strength	0.28				
	Slope	0.04				
WsC2:						
Wooster	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Slope	0.04	Slope	0.04
	Frost action	0.50				
	Low strength	0.28				
	Slope	0.04				
WsD:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50				
	Frost action	0.50				
	Low strength	0.28				
WsD2:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50				
	Frost action	0.50				
	Low strength	0.28				
WsD3:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50				
	Frost action	0.50				
	Low strength	0.28				

TABLE 22.--BUILDING SITE DEVELOPMENT PART 2--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
WsE:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50				
	Frost action	0.50				
	Low strength	0.28				
WsE2:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Depth to saturated zone	0.90		
	Low strength	0.05				
WsF:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50				
	Frost action	0.50				
	Low strength	0.28				
WtB:						
Wooster	Somewhat limited		Not limited		Not limited	
	Shrink-swell	0.50				
	Frost action	0.50				
	Low strength	0.28				
Chili	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.01
WtC:						
Wooster	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Slope	0.04	Slope	0.04
	Frost action	0.50				
	Low strength	0.28				
	Slope	0.04				
Chili	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.04	Cutbanks cave	1.00	Slope	0.04
			Slope	0.04	Droughty	0.01
WvE3:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50				
	Frost action	0.50				
	Low strength	0.28				

TABLE 23.--SANITARY FACILITIES PART 1

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text on page 242 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
AcD2:				
Alexandria	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00		
	Depth to saturated zone	0.40		
AdB:				
Alexandria	Very limited		Somewhat limited	
	Restricted permeability	1.00	Slope	0.32
AdC:				
Alexandria	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04		
AdC2:				
Alexandria	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04		
AdD:				
Alexandria	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00		
AdD2:				
Alexandria	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00		
AdE:				
Alexandria	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00		
AdE2:				
Alexandria	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00		
AdF:				
Alexandria	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00		

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
AeD3:				
Alexandria	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00		
Ag:				
Algiers	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Restricted permeability	0.46	Seepage	0.53
BeB:				
Belmore	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
			Slope	0.32
BeC:				
Belmore	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Slope	0.04	Slope	1.00
BeD:				
Belmore	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
BnA:				
Bennington	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
BnB:				
Bennington	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.32
BnB2:				
Bennington	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.32

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BpB:				
Bennington	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.32
Fitchville	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.32
BrB:				
Berks	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Content of large stones	0.89	Depth to soft bedrock	1.00
			Seepage	1.00
			Content of large stones	1.00
			Slope	0.32
BrC:				
Berks	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Content of large stones	0.89	Depth to soft bedrock	1.00
	Slope	0.04	Seepage	1.00
			Slope	1.00
			Content of large stones	1.00
BrD:				
Berks	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Depth to soft bedrock	1.00
	Content of large stones	0.89	Slope	1.00
			Seepage	1.00
			Content of large stones	1.00
BsF:				
Berks	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Depth to soft bedrock	1.00
	Content of large stones	0.89	Slope	1.00
			Seepage	1.00
			Content of large stones	1.00
Rock Outcrop	Not Rated		Not Rated	
BtA:				
Bogart	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	1.00

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BtB:				
Bogart	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	1.00
			Slope	0.32
BvA:				
Bogart	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	1.00
BvB:				
Bogart	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	1.00
			Slope	0.32
BwC:				
Brownsville	Very limited		Very limited	
	Restricted permeability	1.00	Seepage	1.00
	Depth to bedrock	0.45	Slope	1.00
	Slope	0.04	Depth to soft bedrock	0.04
	Content of large stones	0.01		
BwD:				
Brownsville	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Depth to bedrock	0.45	Depth to soft bedrock	0.04
	Content of large stones	0.01		
BxE:				
Brownsville	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00	Seepage	1.00
	Depth to bedrock	0.45	Depth to soft bedrock	0.04
			Content of large stones	0.02
Westmoreland	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slippage	1.00	Seepage	0.53
	Restricted permeability	0.81		
	Depth to bedrock	0.27		

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
CdB:				
Canfield	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.32
CdB2:				
Canfield	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.32
CdC:				
Canfield	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04	Seepage	0.53
CdC2:				
Canfield	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04	Seepage	0.53
CgB:				
Cardington	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	0.32
CgB2:				
Cardington	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	0.32
CgC:				
Cardington	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04		
CgC2:				
Cardington	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04		

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
ChC3:				
Cardington	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04		
Ck:				
Carlisle	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Subsidence	1.00	Content of organic matter	1.00
CmB:				
Chili	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
			Slope	0.32
CnB:				
Chili	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
			Slope	0.32
CnC:				
Chili	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Slope	0.04	Slope	1.00
CoD:				
Chili	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
Conotton	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
CoD3:				
Chili	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
Conotton	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
CoE:				
Chili	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
Conotton	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
CoF:				
Chili	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
Conotton	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
Cp:				
Condit	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		
Cr:				
Condit	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00		
Cs:				
Condit	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00		
Bennington	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
CtC:				
Conotton	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
			Slope	1.00

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
CvC:				
Coshocton	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Depth to bedrock	0.17		
	Slope	0.04		
DmB:				
Digby	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46	Slope	0.08
FbA:				
Fitchville	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.28
FcA:				
Fitchville	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
FcB:				
Fitchville	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.32
FdA:				
Fitchville	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
Bennington	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
FgA:				
Fitchville Variant	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	1.00		

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
FgB:				
Fitchville Variant	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	1.00	Slope	0.32
Fr:				
Frenchtown	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
GdB:				
Gilpin	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
			Seepage	0.53
			Slope	0.32
GdC:				
Gilpin	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	0.04	Slope	1.00
			Seepage	0.53
GfA:				
Glenford	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
GfB:				
Glenford	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.32
GfC:				
Glenford	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Seepage	0.53
GrB:				
Gresham	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.32

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
HaB:				
Haney	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46	Slope	0.32
HfB:				
Hanover	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.32
HfC:				
Hanover	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Seepage	0.53
HfC2:				
Hanover	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Seepage	0.53
HfC3:				
Hanover	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Seepage	0.53
HfD:				
Hanover	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Seepage	0.53
HfD2:				
Hanover	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Seepage	0.53
HfE:				
Hanover	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00	Seepage	0.53
Ho:				
Holly	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Restricted permeability	0.46	Seepage	0.53
			Slope	0.01

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
HpB:				
Homewood	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.32
HpC:				
Homewood	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04	Seepage	0.53
HpD2:				
Homewood	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slope	1.00	Seepage	0.53
HpE2:				
Homewood	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slope	1.00	Seepage	0.53
JtA:				
Jimtown	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	1.00
KbA:				
Kibbie	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
La:				
Landes	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Filtering capacity	1.00	Seepage	1.00
LfB:				
Latham	Very limited		Very limited	
	Restricted permeability	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.32

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
LfC:				
Latham	Very limited		Very limited	
	Restricted permeability	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04		
Lg:				
Lenawee	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00	Seepage	0.53
Lk:				
Linwood	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Filtering capacity	1.00	Ponding	1.00
	Subsidence	1.00	Content of organic matter	1.00
	Ponding	1.00	Seepage	0.53
	Restricted permeability	0.46		
Lo:				
Lobdell	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Restricted permeability	0.46	Seepage	0.53
LrB:				
Lordstown	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Restricted permeability	0.46	Seepage	1.00
			Slope	0.32
LrC:				
Lordstown	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Restricted permeability	0.46	Seepage	1.00
	Slope	0.04	Slope	1.00
LrD:				
Lordstown	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	1.00

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
LrE:				
Lordstown	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
LrF:				
Lordstown	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
LtE:				
Lordstown	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	1.00
Loudonville	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	1.00
LtF:				
Lordstown	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	1.00
Loudonville	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	1.00
LvB:				
Loudonville	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Restricted permeability	0.46	Seepage	1.00
			Slope	0.32
LvC:				
Loudonville	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Restricted permeability	0.46	Seepage	1.00
	Slope	0.04	Slope	1.00
LvD:				
Loudonville	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	1.00

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
Ly:				
Luray	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00	Seepage	0.53
LzB:				
Lykens	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.32
MeB:				
Mentor	Somewhat limited		Somewhat limited	
	Restricted permeability	0.46	Seepage	0.53
			Slope	0.32
MeC:				
Mentor	Somewhat limited		Very limited	
	Restricted permeability	0.46	Slope	1.00
	Slope	0.04	Seepage	0.53
Op:				
Olmsted	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Seepage	1.00
			Ponding	1.00
Or:				
Orrville Variant	Very limited		Very limited	
	Flooding	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Filtering capacity	1.00	Seepage	1.00
Pa:				
Pewamo	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00		
Pc:				
Pewamo	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00		

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
Pg:				
Pits, Gravel	Not Rated		Not Rated	
Pm:				
Pewamo	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00		
ReA:				
Ravenna	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
ReB:				
Ravenna	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.32
RsB:				
Rittman	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.32
RsB2:				
Rittman	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.32
RsC:				
Rittman	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04		
RsC2:				
Rittman	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04		
RsD:				
Rittman	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slope	1.00		

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
RsD2:				
Rittman	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slope	1.00		
RtC3:				
Rittman	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.04		
RtD3:				
Rittman	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slope	1.00		
SaC:				
Schaffenaker	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Filtering capacity	1.00	Seepage	1.00
	Slope	0.01	Slope	1.00
SaD:				
Schaffenaker	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
SaE:				
Schaffenaker	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
SbE:				
Schaffenaker	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Filtering capacity	1.00	Slope	1.00
	Slope	0.63	Seepage	1.00
Se:				
Sebring	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00	Seepage	0.53

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
Sh:				
Shoals	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.46	Seepage	0.53
Sk:				
Shoals Variant	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Filtering capacity	1.00	Seepage	1.00
SmA:				
Sleeth	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
So:				
Sloan	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Restricted permeability	1.00	Ponding	1.00
	Ponding	1.00	Seepage	0.53
TmA:				
Tiro	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00		
TmB:				
Tiro	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	0.32
TvB:				
Titusville	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.32
TvC:				
Titusville	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Seepage	0.53

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
Uc:				
Udorthents	Not Rated		Not Rated	
Ud:				
Udorthents	Not Rated		Not Rated	
Ur:				
Urban Land	Not Rated		Not Rated	
WaA:				
Wadsworth	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
WaB:				
Wadsworth	Very limited		Very limited	
	Restricted permeability	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.32
Wc:				
Wallkill	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Filtering capacity	1.00	Seepage	1.00
	Ponding	1.00	Ponding	1.00
	Restricted permeability	0.46	Content of organic matter	1.00
WeD:				
Westmoreland	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.81	Seepage	0.53
	Depth to bedrock	0.27		
WhA:				
Wheeling	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46		
WhB:				
Wheeling	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46	Slope	0.32
WhC:				
Wheeling	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Restricted permeability	0.46	Slope	1.00
	Slope	0.04		

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
WmD:				
Mentor	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Wheeling	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Restricted permeability	0.46		
WsB:				
Wooster	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.32
WsB2:				
Wooster	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.32
WsC:				
Wooster	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Seepage	0.53
WsC2:				
Wooster	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Seepage	0.53
WsD:				
Wooster	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Seepage	0.53
WsD2:				
Wooster	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Seepage	0.53
WsD3:				
Wooster	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00	Seepage	0.53
WsE:				
Wooster	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00	Seepage	0.53

TABLE 23.--SANITARY FACILITIES PART 1--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
WsE2:				
Wooster	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00	Seepage	0.53
WsF:				
Wooster	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00	Seepage	0.53
WtB:				
Wooster	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.53
			Slope	0.32
Chili	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
			Slope	0.32
WtC:				
Wooster	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	0.04	Seepage	0.53
Chili	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Slope	0.04	Slope	1.00
WvE3:				
Wooster	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	1.00	Seepage	0.53

TABLE 24.--SANITARY FACILITIES PART 2

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. See text on page 242 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
AcD2:						
Alexandria	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	Too clayey	0.50
	Too clayey	0.50				
AdB:						
Alexandria	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
AdC:						
Alexandria	Somewhat limited		Somewhat limited		Somewhat limited	
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
AdC2:						
Alexandria	Somewhat limited		Somewhat limited		Somewhat limited	
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
AdD:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
AdD2:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
AdE:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
AdE2:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
AdF:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
AeD3:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
Ag:						
Algiers	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				

TABLE 24.--SANITARY FACILITIES PART 2--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
BeB:						
Belmore	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Too clayey	0.50
	Too clayey	0.50				
BeC:						
Belmore	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Too clayey	0.50
	Too clayey	0.50	Slope	0.04	Slope	0.04
	Slope	0.04				
BeD:						
Belmore	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Too clayey	0.50
	Too clayey	0.50				
BnA:						
Bennington	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
BnB:						
Bennington	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
BnB2:						
Bennington	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
BpB:						
Bennington	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
Fitchville	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
BrB:						
Berks	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00	Content of large stones	0.89
	Content of large stones	0.89			Gravel content	0.08
BrC:						
Berks	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00	Content of large stones	0.89
	Content of large stones	0.89	Slope	0.04	Gravel content	0.08
	Slope	0.04			Slope	0.04

TABLE 24.--SANITARY FACILITIES PART 2--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
BrD:						
Berks	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Content of large stones	0.89
	Content of large stones	0.89			Gravel content	0.08
BsF:						
Berks	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	Content of large stones	0.89
	Content of large stones	0.89			Gravel content	0.08
Rock Outcrop	Not Rated		Not Rated		Not Rated	
BtA:						
Bogart	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Seepage	1.00	Seepage	1.00	Gravel content	0.02
BtB:						
Bogart	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Seepage	1.00	Seepage	1.00	Gravel content	0.02
BvA:						
Bogart	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Seepage	1.00	Seepage	1.00	Gravel content	0.02
BvB:						
Bogart	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Seepage	1.00	Seepage	1.00	Gravel content	0.02
BwC:						
Brownsville	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Seepage	1.00
	Slope	0.04	Slope	0.04	Gravel content	0.37
	Content of large stones	0.01	Depth to bedrock	0.04	Slope	0.04
					Depth to bedrock	0.04
					Content of large stones	0.01
BwD:						
Brownsville	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Seepage	1.00
	Slope	1.00	Slope	1.00	Slope	1.00
	Content of large stones	0.01	Depth to bedrock	0.04	Gravel content	0.37
					Depth to bedrock	0.04
					Content of large stones	0.01

TABLE 24.--SANITARY FACILITIES PART 2--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
BxE:						
Brownsville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Seepage	1.00	Gravel content	0.47
	Content of large stones	0.01	Depth to bedrock	0.04	Depth to bedrock	0.04
					Content of large stones	0.01
Westmoreland	Very limited		Very limited		Very limited	
	Slope	1.00	Slippage	1.00	Slope	1.00
	Depth to bedrock	1.00	Slope	1.00	Gravel content	0.01
CdB:						
Canfield	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
CdB2:						
Canfield	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
CdC:						
Canfield	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
CdC2:						
Canfield	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
CgB:						
Cardington	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Too clayey	0.50			Too clayey	0.50
CgB2:						
Cardington	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Too clayey	0.50			Too clayey	0.50
CgC:						
Cardington	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
CgC2:						
Cardington	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04

TABLE 24.--SANITARY FACILITIES PART 2--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
ChC3:						
Cardington	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
Ck:						
Carlisle	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Content of organic matter	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Content of organic matter	1.00	Seepage	1.00	Depth to saturated zone	1.00
	Seepage	1.00				
CmB:						
Chili	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Gravel content	0.22
CnB:						
Chili	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Gravel content	0.31
CnC:						
Chili	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Gravel content	0.31
	Slope	0.04	Slope	0.04	Slope	0.04
CoD:						
Chili	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Gravel content	0.31
Conotton	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Gravel content	1.00
	Slope	1.00	Slope	1.00	Slope	1.00
CoD3:						
Chili	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Gravel content	0.31
Conotton	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Gravel content	1.00
	Slope	1.00	Slope	1.00	Slope	1.00
CoE:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00	Gravel content	0.31
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00	Gravel content	1.00

TABLE 24.--SANITARY FACILITIES PART 2--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
CoF:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00	Gravel content	0.31
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00	Gravel content	1.00
Cp:						
Condit	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Hard to compact	1.00
					Too clayey	0.50
Cr:						
Condit	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50
Cs:						
Condit	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50
Bennington	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
CtC:						
Conotton	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Gravel content	1.00
CvC:						
Coshocton	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
	Depth to bedrock	1.00	Slope	0.04	Depth to saturated zone	0.68
	Slope	0.04			Slope	0.04
DmB:						
Digby	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		
FbA:						
Fitchville	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.96

TABLE 24.--SANITARY FACILITIES PART 2--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
FcA:						
Fitchville	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
FcB:						
Fitchville	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
FdA:						
Fitchville	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
Bennington	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
FgA:						
Fitchville Variant	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		
FgB:						
Fitchville Variant	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		
Fr:						
Frenchtown	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
GdB:						
Gilpin	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
GdC:						
Gilpin	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	0.04	Slope	0.04	Slope	0.04
GfA:						
Glenford	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
GfB:						
Glenford	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86

TABLE 24.--SANITARY FACILITIES PART 2--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
GfC:						
Glenford	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
GrB:						
Gresham	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
HaB:						
Haney	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Seepage	1.00				
HfB:						
Hanover	Not limited		Not limited		Not limited	
HfC:						
Hanover	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.04	Slope	0.04	Slope	0.04
HfC2:						
Hanover	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.04	Slope	0.04	Slope	0.04
HfC3:						
Hanover	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.04	Slope	0.04	Slope	0.04
HfD:						
Hanover	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
HfD2:						
Hanover	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
HfE:						
Hanover	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Ho:						
Holly	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		
HpB:						
Homewood	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
	Depth to saturated zone	0.24			Depth to saturated zone	0.02
HpC:						
Homewood	Somewhat limited		Somewhat limited		Somewhat limited	
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Depth to saturated zone	0.24			Slope	0.04
	Slope	0.04			Depth to saturated zone	0.02

TABLE 24.--SANITARY FACILITIES PART 2--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
HpD2:						
Homewood	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
	Depth to saturated zone	0.24			Depth to saturated zone	0.02
HpE2:						
Homewood	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
	Depth to saturated zone	0.24			Depth to saturated zone	0.02
JtA:						
Jimtown	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			Gravel content	0.35
KbA:						
Kibbie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
La:						
Landes	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Flooding	1.00	Too Sandy	0.50
	Seepage	1.00	Seepage	1.00		
	Too Sandy	0.50				
LfB:						
Latham	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	Hard to compact	1.00
	Too clayey	0.50			Depth to saturated zone	0.86
					Too clayey	0.50
LfC:						
Latham	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	Hard to compact	1.00
	Too clayey	0.50	Slope	0.04	Depth to saturated zone	0.86
	Slope	0.04			Too clayey	0.50
					Slope	0.04
Lg:						
Lenawee	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50
Lk:						
Linwood	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Seepage	1.00	Ponding	1.00
			Ponding	1.00	Gravel content	0.77

TABLE 24.--SANITARY FACILITIES PART 2--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
Lo:						
Lobdell	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.86
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
LrB:						
Lordstown	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00		
LrC:						
Lordstown	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00	Slope	0.04
	Slope	0.04	Slope	0.04		
LrD:						
Lordstown	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00	Slope	1.00
	Slope	1.00	Slope	1.00		
LrE:						
Lordstown	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	0.06
LrF:						
Lordstown	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	0.06
LtE:						
Lordstown	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		
Loudonville	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		
LtF:						
Lordstown	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		
Loudonville	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		
LvB:						
Loudonville	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00		

TABLE 24.--SANITARY FACILITIES PART 2--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
LvC:						
Loudonville	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00	Slope	0.04
	Slope	0.04	Slope	0.04		
LvD:						
Loudonville	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00	Slope	1.00
	Slope	1.00	Slope	1.00		
Ly:						
Luray	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50
LzB:						
Lykens	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.68
	Too clayey	0.50			Too clayey	0.50
MeB:						
Mentor	Not limited		Not limited		Not limited	
MeC:						
Mentor	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.04	Slope	0.04	Slope	0.04
Op:						
Olmsted	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	Ponding	1.00
	Ponding	1.00	Ponding	1.00		
Or:						
Orrville Variant	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to bedrock	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to bedrock	1.00	Seepage	1.00	Gravel content	0.18
	Seepage	1.00	Depth to bedrock	1.00		
Pa:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50
Pc:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50
Pg:						
Pits, Gravel	Not Rated		Not Rated		Not Rated	

TABLE 24.--SANITARY FACILITIES PART 2--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
Pm:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Too clayey	0.50			Too clayey	0.50
ReA:						
Ravenna	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
ReB:						
Ravenna	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
RsB:						
Rittman	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Too clayey	0.50			Too clayey	0.50
RsB2:						
Rittman	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Too clayey	0.50			Too clayey	0.50
RsC:						
Rittman	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
RsC2:						
Rittman	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
RsD:						
Rittman	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	0.86
	Too clayey	0.50			Too clayey	0.50
RsD2:						
Rittman	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	0.86
	Too clayey	0.50			Too clayey	0.50
RtC3:						
Rittman	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04

TABLE 24.--SANITARY FACILITIES PART 2--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
RtD3:						
Rittman	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	0.86
	Too clayey	0.50			Too clayey	0.50
SaC:						
Schaffenaker	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00	Too Sandy	0.50
	Too Sandy	0.50	Slope	0.01	Slope	0.01
	Slope	0.01				
SaD:						
Schaffenaker	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Too Sandy	0.50
	Too Sandy	0.50				
SaE:						
Schaffenaker	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	Too Sandy	0.50
	Too Sandy	0.50				
SbE:						
Schaffenaker	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Seepage	1.00	Depth to bedrock	1.00
	Seepage	1.00	Depth to bedrock	1.00	Slope	0.63
	Slope	0.63	Slope	0.63	Too Sandy	0.50
	Too Sandy	0.50				
Se:						
Sebring	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
Sh:						
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	Ponding	1.00
	Ponding	1.00	Ponding	1.00		
Sk:						
Shoals Variant	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too Sandy	1.00
	Seepage	1.00	Seepage	1.00	Gravel content	0.54
	Too Sandy	1.00				
SmA:						
Sleeth	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Seepage	1.00				

TABLE 24.--SANITARY FACILITIES PART 2--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
So:						
Sloan	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00		
TmA:						
Tiro	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
TmB:						
Tiro	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
TvB:						
Titusville	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Too clayey	0.50			Too clayey	0.50
TvC:						
Titusville	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.86
	Too clayey	0.50	Slope	0.04	Too clayey	0.50
	Slope	0.04			Slope	0.04
Uc:						
Udorthents	Not Rated		Very limited		Not Rated	
			Slope			
Ud:						
Udorthents	Not Rated		Not Rated		Not Rated	
Ur:						
Urban Land	Not Rated		Not Rated		Not Rated	
WaA:						
Wadsworth	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
WaB:						
Wadsworth	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
Wc:						
Wallkill	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Content of organic matter	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Content of organic matter	1.00	Seepage	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Gravel content	0.91

TABLE 24.--SANITARY FACILITIES PART 2--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
WeD:						
Westmoreland	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Slope	1.00	Slope	1.00
	Slope	1.00			Gravel content	0.04
WhA:						
Wheeling	Very limited		Very limited		Not limited	
	Seepage	1.00	Seepage	1.00		
WhB:						
Wheeling	Very limited		Very limited		Not limited	
	Seepage	1.00	Seepage	1.00		
WhC:						
Wheeling	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Slope	0.04
	Slope	0.04	Slope	0.04		
WmD:						
Mentor	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Wheeling	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Slope	1.00
	Slope	1.00	Slope	1.00		
WsB:						
Wooster	Not limited		Not limited		Not limited	
WsB2:						
Wooster	Not limited		Not limited		Not limited	
WsC:						
Wooster	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.04	Slope	0.04	Slope	0.04
WsC2:						
Wooster	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.04	Slope	0.04	Slope	0.04
WsD:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WsD2:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WsD3:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WsE:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WsE2:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to saturated zone	0.24			Depth to saturated zone	0.02

TABLE 24.--SANITARY FACILITIES PART 2--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
WsF:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
WtB:						
Wooster	Not limited		Not limited		Not limited	
Chili	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Gravel content	0.31
WtC:						
Wooster	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.04	Slope	0.04	Slope	0.04
Chili	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Seepage	1.00	Gravel content	0.31
	Slope	0.04	Slope	0.04	Slope	0.04
WvE3:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00

TABLE 25.--AGRICULTURAL WASTE 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 on page 244 for further explanation of ratings in this table.)

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AcD2:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Restricted permeability	0.41	Restricted permeability	0.31	Too steep for sprinkler application	1.00
	Too acid	0.02	Too acid	0.07	Restricted permeability	0.31
					Too acid	0.07
AdB:						
Alexandria	Somewhat limited		Somewhat limited		Somewhat limited	
	Restricted permeability	0.41	Too acid	0.42	Too acid	0.42
	Too acid	0.11	Restricted permeability	0.31	Restricted permeability	0.31
					Too steep for surface application	0.08
AdC:						
Alexandria	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.41	Too acid	0.42	Too steep for surface application	1.00
	Too acid	0.11	Restricted permeability	0.31	Too acid	0.42
	Slope	0.04	Slope	0.04	Restricted permeability	0.31
					Too steep for sprinkler application	0.22
AdC2:						
Alexandria	Somewhat limited		Somewhat limited		Very limited	
	Restricted permeability	0.41	Too acid	0.42	Too steep for surface application	1.00
	Too acid	0.11	Restricted permeability	0.31	Too acid	0.42
	Slope	0.04	Slope	0.04	Restricted permeability	0.31
					Too steep for sprinkler application	0.22
AdD:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Restricted permeability	0.41	Too acid	0.42	Too steep for sprinkler application	1.00
	Too acid	0.11	Restricted permeability	0.31	Too acid	0.42
					Restricted permeability	0.31

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AdD2:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Restricted permeability	0.41	Too acid	0.42	Too steep for sprinkler application	1.00
	Too acid	0.11	Restricted permeability	0.31	Too acid	0.42
					Restricted permeability	0.31
AdE:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Restricted permeability	0.41	Too acid	0.42	Too steep for sprinkler application	1.00
	Too acid	0.11	Restricted permeability	0.31	Too acid	0.42
					Restricted permeability	0.31
AdE2:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Restricted permeability	0.41	Too acid	0.42	Too steep for sprinkler application	1.00
	Too acid	0.11	Restricted permeability	0.31	Too acid	0.42
					Restricted permeability	0.31
AdF:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Restricted permeability	0.41	Too acid	0.42	Too steep for sprinkler application	1.00
	Too acid	0.11	Restricted permeability	0.31	Too acid	0.42
					Restricted permeability	0.31
AeD3:						
Alexandria	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Restricted permeability	0.41	Too acid	0.42	Too steep for sprinkler application	1.00
	Too acid	0.11	Restricted permeability	0.31	Too acid	0.42
					Restricted permeability	0.31

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
Ag:						
Algiers	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	1.00	Flooding	1.00
	Leaching limitation	0.50				
BeB:						
Belmore	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
					Too steep for surface application	0.08
BeC:						
Belmore	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Slope	0.04	Slope	0.04	Too steep for surface application	1.00
					Too steep for sprinkler application	0.22
BeD:						
Belmore	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
					Too steep for sprinkler application	1.00
BnA:						
Bennington	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
	Too acid	0.03	Too acid	0.14	Too acid	0.14
BnB:						
Bennington	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
	Too acid	0.02	Too acid	0.07	Too steep for surface application	0.08
					Too acid	0.07

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BnB2:						
Bennington	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
	Too acid	0.03	Too acid	0.14	Too acid	0.14
					Too steep for surface application	0.08
BpB:						
Bennington	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
	Too acid	0.03	Too acid	0.14	Too acid	0.14
					Too steep for surface application	0.08
Fitchville	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	0.41	Too acid	0.42	Too acid	0.42
	Too acid	0.11	Restricted permeability	0.31	Restricted permeability	0.31
					Too steep for surface application	0.08
BrB:						
Berks	Very limited		Very limited		Very limited	
	Droughty	1.00	Droughty	1.00	Droughty	1.00
	Depth to bedrock	0.65	Too acid	0.67	Too acid	0.67
	Too acid	0.18	Depth to bedrock	0.65	Depth to bedrock	0.65
	Cobble content	0.12	Cobble content	0.12	Cobble content	0.12
	Filtering capacity	0.01	Filtering capacity	0.01	Too steep for surface application	0.08
BrC:						
Berks	Very limited		Very limited		Very limited	
	Droughty	1.00	Droughty	1.00	Too steep for surface application	1.00
	Depth to bedrock	0.65	Too acid	0.67	Droughty	1.00
	Too acid	0.18	Depth to bedrock	0.65	Too acid	0.67
	Cobble content	0.12	Cobble content	0.12	Depth to bedrock	0.65
	Slope	0.04	Slope	0.04	Too steep for sprinkler application	0.22

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
BrD:						
Berks	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Droughty	1.00	Droughty	1.00	Too steep for sprinkler application	1.00
	Depth to bedrock	0.65	Too acid	0.67	Droughty	1.00
	Too acid	0.18	Depth to bedrock	0.65	Too acid	0.67
	Cobble content	0.12	Cobble content	0.12	Depth to bedrock	0.65
BsF:						
Berks	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Droughty	1.00	Droughty	1.00	Too steep for sprinkler application	1.00
	Depth to bedrock	0.65	Too acid	0.67	Droughty	1.00
	Too acid	0.18	Depth to bedrock	0.65	Too acid	0.67
	Cobble content	0.12	Cobble content	0.12	Depth to bedrock	0.65
Rock Outcrop	Not rated		Not rated		Not rated	
BtA:						
Bogart	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 acid	0.11	Too acid	0.42	Too acid	0.42
	Filtering capacity	0.01	Filtering capacity	0.01	Filtering capacity	0.01
BtB:						
Bogart	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 acid	0.11	Too acid	0.42	Too acid	0.42
	Filtering capacity	0.01	Filtering capacity	0.01	Too steep for surface application	0.08
					Filtering capacity	0.01
BvA:						
Bogart	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 acid	0.11	Too acid	0.42	Too acid	0.42
	Filtering capacity	0.01	Filtering capacity	0.01	Filtering capacity	0.01
BvB:						
Bogart	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 acid	0.11	Too acid	0.42	Too acid	0.42
	Filtering capacity	0.01	Filtering capacity	0.01	Too steep for surface application	0.08
					Filtering capacity	0.01

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BwC:						
Brownsville---------	Somewhat limited		Somewhat limited		Very limited	
	Too acid	0.43	Too acid	0.99	Too steep for surface application	1.00
	Restricted permeability	0.41	Droughty	0.32	Too acid	0.99
	Droughty	0.32	Restricted permeability	0.31	Droughty	0.32
	Slope	0.04	Slope	0.04	Restricted permeability	0.31
	Filtering capacity	0.01	Filtering capacity	0.01	Too steep for sprinkler application	0.22
BwD:						
Brownsville---------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.43	Too acid	0.99	Too steep for sprinkler application	1.00
	Restricted permeability	0.41	Droughty	0.32	Too acid	0.99
	Droughty	0.32	Restricted permeability	0.31	Droughty	0.32
	Filtering capacity	0.01	Filtering capacity	0.01	Restricted permeability	0.31
BxE:						
Brownsville---------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.43	Too acid	0.99	Too steep for sprinkler application	1.00
	Restricted permeability	0.41	Restricted permeability	0.31	Too acid	0.99
	Droughty	0.23	Droughty	0.23	Restricted permeability	0.31
	Filtering capacity	0.01	Filtering capacity	0.01	Droughty	0.23
Westmoreland--------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.32	Too acid	0.91	Too steep for sprinkler application	1.00
					Too acid	0.91
CdB:						
Canfield----------	Very limited		Very limited		Very limited	
	Dense layer	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too acid	0.77	Too acid	0.77
	Too acid	0.22			Too steep for surface application	0.08

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
CdB2:						
Canfield	Very limited		Very limited		Very limited	
	Dense layer	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too acid	0.77	Too acid	0.77
	Too acid	0.22			Too steep for surface application	0.08
CdC:						
Canfield	Very limited		Very limited		Very limited	
	Dense layer	1.00	Depth to saturated zone	1.00	Too steep for surface application	1.00
	Depth to saturated zone	1.00	Too acid	0.77	Depth to saturated zone	1.00
	Too acid	0.22	Slope	0.04	Too acid	0.77
	Slope	0.04			Too steep for sprinkler application	0.22
CdC2:						
Canfield	Very limited		Very limited		Very limited	
	Dense layer	1.00	Depth to saturated zone	1.00	Too steep for surface application	1.00
	Depth to saturated zone	1.00	Too acid	0.77	Depth to saturated zone	1.00
	Too acid	0.22	Slope	0.04	Too acid	0.77
	Slope	0.04			Too steep for sprinkler application	0.22
CgB:						
Cardington	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	0.41	Too acid	0.91	Too acid	0.91
	Too acid	0.32	Restricted permeability	0.31	Restricted permeability	0.31
					Too steep for surface application	0.08
CgB2:						
Cardington	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	0.41	Too acid	0.91	Too acid	0.91
	Too acid	0.32	Restricted permeability	0.31	Restricted permeability	0.31
					Too steep for surface application	0.08

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CgC:						
Cardington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too steep for surface application	1.00
	Restricted permeability	0.41	Too acid	0.91	Depth to saturated zone	1.00
	Too acid	0.32	Restricted permeability	0.31	Too acid	0.91
	Slope	0.04	Slope	0.04	Restricted permeability	0.31
					Too steep for sprinkler application	0.22
CgC2:						
Cardington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too steep for surface application	1.00
	Restricted permeability	0.41	Too acid	0.91	Depth to saturated zone	1.00
	Too acid	0.32	Restricted permeability	0.31	Too acid	0.91
	Slope	0.04	Slope	0.04	Restricted permeability	0.31
					Too steep for sprinkler application	0.22
ChC3:						
Cardington	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too steep for surface application	1.00
	Restricted permeability	0.41	Too acid	0.91	Depth to saturated zone	1.00
	Too acid	0.32	Restricted permeability	0.31	Too acid	0.91
	Slope	0.04	Slope	0.04	Restricted permeability	0.31
					Too steep for sprinkler application	0.22
Ck:						
Carlisle	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
	Leaching limitation	0.90	Filtering capacity	0.01	Filtering capacity	0.01
	Filtering capacity	0.01				
CmB:						
Chili	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Too acid	0.08	Too acid	0.31	Too acid	0.31
					Too steep for surface application	0.08

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
CnB:						
Chili	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Droughty	0.20	Too acid	0.42	Too acid	0.42
	Too acid	0.11	Droughty	0.20	Droughty	0.20
					Too steep for surface application	0.08
CnC:						
Chili	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Droughty	0.20	Too acid	0.55	Too steep for surface application	1.00
	Too acid	0.14	Droughty	0.20	Too acid	0.55
	Slope	0.04	Slope	0.04	Too steep for sprinkler application	0.22
					Droughty	0.20
CoD:						
Chili	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Droughty	0.20	Too acid	0.42	Too steep for sprinkler application	1.00
	Too acid	0.11	Droughty	0.20	Too acid	0.42
					Droughty	0.20
Conotton	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Droughty	0.78	Droughty	0.78	Too steep for sprinkler application	1.00
	Too acid	0.11	Too acid	0.42	Droughty	0.78
					Too acid	0.42

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CoD3:						
Chili	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Droughty	0.20	Too acid	0.42	Too steep for sprinkler application	1.00
	Too acid	0.11	Droughty	0.20	Too acid	0.42
					Droughty	0.20
Conotton	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Droughty	0.78	Droughty	0.78	Too steep for sprinkler application	1.00
	Too acid	0.11	Too acid	0.42	Droughty	0.78
					Too acid	0.42
CoE:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Slope	1.00	Too steep for surface application	1.00
	Droughty	0.20	Too acid	0.42	Too steep for sprinkler application	1.00
	Too acid	0.11	Droughty	0.20	Too acid	0.42
					Droughty	0.20
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Slope	1.00	Too steep for surface application	1.00
	Droughty	0.78	Droughty	0.78	Too steep for sprinkler application	1.00
	Too acid	0.11	Too acid	0.42	Droughty	0.78
					Too acid	0.42

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
CoF:						
Chili	Very limited		Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Slope	1.00	Too steep for surface application	1.00
	Droughty	0.20	Too acid	0.42	Too steep for sprinkler application	1.00
	Too acid	0.11	Droughty	0.20	Too acid	0.42
					Droughty	0.20
Conotton	Very limited		Very limited		Very limited	
	Slope	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Filtering capacity	1.00	Slope	1.00	Too steep for surface application	1.00
	Droughty	0.78	Droughty	0.78	Too steep for sprinkler application	1.00
	Too acid	0.11	Too acid	0.42	Droughty	0.78
					Too acid	0.42
Cp:						
Condit	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Runoff limitation	0.40	Too acid	0.91	Too acid	0.91
	Too acid	0.32				
Cr:						
Condit	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
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Runoff limitation	0.40				
Cs:						
Condit	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
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Runoff limitation	0.40	Too acid	0.31	Too acid	0.31
	Too acid	0.08				
Bennington	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
	Too acid	0.11	Too acid	0.42	Too acid	0.42

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CtC:						
Conotton	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Droughty	0.78	Droughty	0.78	Too steep for surface application	0.92
	Too acid	0.11	Too acid	0.42	Droughty	0.78
					Too acid	0.42
					Too steep for sprinkler application	0.02
CvC:						
Coshocton	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Depth to saturated zone	0.95	Depth to saturated zone	0.95	Too steep for surface application	1.00
	Too acid	0.22	Too acid	0.77	Depth to saturated zone	0.95
	Slope	0.04	Slope	0.04	Too acid	0.77
					Too steep for sprinkler application	0.22
DmB:						
Digby	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
FbA:						
Fitchville	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	0.41	Too acid	0.31	Too acid	0.31
	Too acid	0.08	Restricted permeability	0.31	Restricted permeability	0.31
FcA:						
Fitchville	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	0.41	Too acid	0.42	Too acid	0.42
	Too acid	0.11	Restricted permeability	0.31	Restricted permeability	0.31
FcB:						
Fitchville	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	0.41	Too acid	0.42	Too acid	0.42
	Too acid	0.11	Restricted permeability	0.31	Restricted permeability	0.31
					Too steep for surface application	0.08

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
FdA:						
Fitchville	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	0.41	Too acid	0.42	Too acid	0.42
	Too acid	0.11	Restricted permeability	0.31	Restricted permeability	0.31
Bennington	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
	Too acid	0.02	Too acid	0.07	Too acid	0.07
FgA:						
Fitchville Variant	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.41	Too acid	0.42	Too acid	0.42
	Too acid	0.11	Restricted permeability	0.31	Restricted permeability	0.31
FgB:						
Fitchville Variant	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.41	Too acid	0.42	Too acid	0.42
	Too acid	0.11	Restricted permeability	0.31	Restricted permeability	0.31
					Too steep for surface application	0.08
Fr:						
Frenchtown	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	0.41	Too acid	0.42	Too acid	0.42
	Runoff limitation	0.40	Restricted permeability	0.31	Restricted permeability	0.31
	Too acid	0.11				
GdB:						
Gilpin	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to bedrock	0.42	Too acid	0.77	Too acid	0.77
	Too acid	0.22	Depth to bedrock	0.42	Depth to bedrock	0.42
	Droughty	0.14	Droughty	0.14	Droughty	0.14
					Too steep for surface application	0.08

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GdC:						
Gilpin	Somewhat limited		Somewhat limited		Very limited	
	Depth to bedrock	0.42	Too acid	0.77	Too steep for surface application	1.00
	Too acid	0.22	Depth to bedrock	0.42	Too acid	0.77
	Droughty	0.14	Droughty	0.14	Depth to bedrock	0.42
	Slope	0.04	Slope	0.04	Too steep for sprinkler application	0.22
					Droughty	0.14
GfA:						
Glenford	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	0.41	Too acid	0.42	Too acid	0.42
	Too acid	0.11	Restricted permeability	0.31	Restricted permeability	0.31
GfB:						
Glenford	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	0.41	Too acid	0.42	Too acid	0.42
	Too acid	0.11	Restricted permeability	0.31	Restricted permeability	0.31
					Too steep for surface application	0.08
GfC:						
Glenford	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too steep for surface application	1.00
	Restricted permeability	0.41	Too acid	0.42	Depth to saturated zone	1.00
	Too acid	0.11	Restricted permeability	0.31	Too acid	0.42
	Slope	0.04	Slope	0.04	Restricted permeability	0.31
					Too steep for sprinkler application	0.22
GrB:						
Gresham	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Dense layer	1.00	Too acid	0.77	Too acid	0.77
	Restricted permeability	0.41	Restricted permeability	0.31	Restricted permeability	0.31
	Too acid	0.22			Too steep for surface application	0.08

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
HaB:						
Haney	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Too steep for surface application	0.08
HfB:						
Hanover	Very limited		Somewhat limited		Somewhat limited	
	Dense layer	1.00	Too acid	0.96	Too acid	0.96
	Too acid	0.37			Too steep for surface application	0.08
HfC:						
Hanover	Very limited		Somewhat limited		Very limited	
	Dense layer	1.00	Too acid	0.96	Too steep for surface application	1.00
	Too acid	0.37	Slope	0.04	Too acid	0.96
	Slope	0.04			Too steep for sprinkler application	0.22
HfC2:						
Hanover	Very limited		Somewhat limited		Very limited	
	Dense layer	1.00	Too acid	0.96	Too steep for surface application	1.00
	Too acid	0.37	Slope	0.04	Too acid	0.96
	Slope	0.04			Too steep for sprinkler application	0.22
HfC3:						
Hanover	Very limited		Somewhat limited		Very limited	
	Dense layer	1.00	Too acid	0.96	Too steep for surface application	1.00
	Too acid	0.37	Slope	0.04	Too acid	0.96
	Slope	0.04			Too steep for sprinkler application	0.22
HfD:						
Hanover	Very limited		Very limited		Very limited	
	Dense layer	1.00	Slope	1.00	Too steep for surface application	1.00
	Slope	1.00	Too acid	0.96	Too steep for sprinkler application	1.00
	Too acid	0.37			Too acid	0.96

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HfD2:						
Hanover	Very limited		Very limited		Very limited	
	Dense layer	1.00	Slope	1.00	Too steep for surface application	1.00
	Slope	1.00	Too acid	0.96	Too steep for sprinkler application	1.00
	Too acid	0.37			Too acid	0.96
HfE:						
Hanover	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Dense layer	1.00	Too acid	0.96	Too steep for sprinkler application	1.00
	Too acid	0.37			Too acid	0.96
Ho:						
Holly	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	1.00	Flooding	1.00
	Leaching limitation	0.70	Too acid	0.07	Too acid	0.07
	Too acid	0.02				
HpB:						
Homewood	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Depth to saturated zone	0.24	Depth to saturated zone	0.24	Depth to saturated zone	0.24
	Too acid	0.02	Too acid	0.07	Too steep for surface application	0.08
					Too acid	0.07
HpC:						
Homewood	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Depth to saturated zone	0.24	Depth to saturated zone	0.24	Too steep for surface application	1.00
	Slope	0.04	Too acid	0.07	Depth to saturated zone	0.24
	Too acid	0.02	Slope	0.04	Too steep for sprinkler application	0.22
					Too acid	0.07

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
HpD2:						
Homewood	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00	Too steep for surface application	1.00
	Slope	1.00	Slope	1.00	Restricted permeability	1.00
	Depth to saturated zone	0.24	Depth to saturated zone	0.24	Too steep for sprinkler application	1.00
	Too acid	0.02	Too acid	0.07	Depth to saturated zone	0.24
					Too acid	0.07
HpE2:						
Homewood	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Restricted permeability	1.00	Restricted permeability	1.00	Too steep for sprinkler application	1.00
	Depth to saturated zone	0.24	Depth to saturated zone	0.24	Restricted permeability	1.00
	Too acid	0.02	Too acid	0.07	Depth to saturated zone	0.24
					Too acid	0.07
JtA:						
Jimtown	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 acid	0.08	Too acid	0.31	Too acid	0.31
	Filtering capacity	0.01	Filtering capacity	0.01	Filtering capacity	0.01
KbA:						
Kibbie	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
La:						
Landes	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Flooding	1.00	Flooding	1.00	Flooding	0.60
	Droughty	0.01	Droughty	0.01	Droughty	0.01
LfB:						
Latham	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Runoff limitation	0.40	Too acid	0.96	Too acid	0.96
	Too acid	0.37	Depth to bedrock	0.29	Depth to bedrock	0.29
	Depth to bedrock	0.29	Droughty	0.01	Too steep for surface application	0.08

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LfC:						
Latham	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too steep for surface application	1.00
	Runoff limitation	0.40	Too acid	0.96	Depth to saturated zone	1.00
	Too acid	0.37	Depth to bedrock	0.29	Too acid	0.96
	Depth to bedrock	0.29	Slope	0.04	Depth to bedrock	0.29
Lg:						
Lenawee	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Leaching limitation	0.70	Too acid	0.42	Too acid	0.42
	Restricted permeability	0.41	Restricted permeability	0.31	Restricted permeability	0.31
	Too acid	0.11				
Lk:						
Linwood	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Leaching limitation	0.90				
Lo:						
Lobdell	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	Flooding	0.60
LrB:						
Lordstown	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to bedrock	0.06	Too acid	0.21	Too acid	0.21
	Too acid	0.05	Depth to bedrock	0.06	Too steep for surface application	0.08
	Droughty	0.01	Droughty	0.01	Depth to bedrock	0.06
	Filtering capacity	0.01	Filtering capacity	0.01	Droughty	0.01
					Filtering capacity	0.01
LrC:						
Lordstown	Somewhat limited		Somewhat limited		Very limited	
	Depth to bedrock	0.06	Too acid	0.21	Too steep for surface application	1.00
	Too acid	0.05	Depth to bedrock	0.06	Too steep for sprinkler application	0.22
	Slope	0.04	Slope	0.04	Too acid	0.21
	Droughty	0.01	Droughty	0.01	Depth to bedrock	0.06
	Filtering capacity	0.01	Filtering capacity	0.01	Droughty	0.01

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
LrD:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	0.06	Too acid	0.21	Too steep for sprinkler application	1.00
	Too acid	0.05	Depth to bedrock	0.06	Too acid	0.21
	Droughty	0.01	Droughty	0.01	Depth to bedrock	0.06
	Filtering capacity	0.01	Filtering capacity	0.01	Droughty	0.01
LrE:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Droughty	0.92	Droughty	0.92	Too steep for sprinkler application	1.00
	Depth to bedrock	0.42	Too acid	0.77	Droughty	0.92
	Too acid	0.22	Depth to bedrock	0.42	Too acid	0.77
					Depth to bedrock	0.42
LrF:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Droughty	0.92	Droughty	0.92	Too steep for sprinkler application	1.00
	Depth to bedrock	0.42	Too acid	0.77	Droughty	0.92
	Too acid	0.22	Depth to bedrock	0.42	Too acid	0.77
					Depth to bedrock	0.42
LtE:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	0.06	Too acid	0.21	Too steep for sprinkler application	1.00
	Too acid	0.05	Depth to bedrock	0.06	Too acid	0.21
	Droughty	0.01	Droughty	0.01	Depth to bedrock	0.06
	Filtering capacity	0.01	Filtering capacity	0.01	Droughty	0.01
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.11	Too acid	0.42	Too steep for sprinkler application	1.00
	Depth to bedrock	0.01	Depth to bedrock	0.01	Too acid	0.42
	Filtering capacity	0.01	Filtering capacity	0.01	Depth to bedrock	0.01
					Filtering capacity	0.01

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LtF:						
Lordstown	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	0.06	Too acid	0.21	Too steep for sprinkler application	1.00
	Too acid	0.05	Depth to bedrock	0.06	Too acid	0.21
	Droughty	0.01	Droughty	0.01	Depth to bedrock	0.06
	Filtering capacity	0.01	Filtering capacity	0.01	Droughty	0.01
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.11	Too acid	0.42	Too steep for sprinkler application	1.00
	Depth to bedrock	0.01	Depth to bedrock	0.01	Too acid	0.42
	Filtering capacity	0.01	Filtering capacity	0.01	Depth to bedrock	0.01
					Filtering capacity	0.01
LvB:						
Loudonville	Somewhat limited		Somewhat limited		Somewhat limited	
	Too acid	0.11	Too acid	0.42	Too acid	0.42
	Depth to bedrock	0.01	Depth to bedrock	0.01	Too steep for surface application	0.08
	Filtering capacity	0.01	Filtering capacity	0.01	Depth to bedrock	0.01
					Filtering capacity	0.01
LvC:						
Loudonville	Somewhat limited		Somewhat limited		Very limited	
	Too acid	0.11	Too acid	0.42	Too steep for surface application	1.00
	Slope	0.04	Slope	0.04	Too acid	0.42
	Depth to bedrock	0.01	Depth to bedrock	0.01	Too steep for sprinkler application	0.22
	Filtering capacity	0.01	Filtering capacity	0.01	Depth to bedrock	0.01
					Filtering capacity	0.01
LvD:						
Loudonville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.11	Too acid	0.42	Too steep for sprinkler application	1.00
	Depth to bedrock	0.01	Depth to bedrock	0.01	Too acid	0.42
	Filtering capacity	0.01	Filtering capacity	0.01	Depth to bedrock	0.01
					Filtering capacity	0.01

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
Ly:						
Luray	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Leaching limitation	0.50	Restricted permeability	0.31	Restricted permeability	0.31
	Restricted permeability	0.41				
LzB:						
Lykens	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.95	Depth to saturated zone	0.95	Depth to saturated zone	0.95
	Restricted permeability	0.74	Restricted permeability	0.60	Restricted permeability	0.60
	Too acid	0.02	Too acid	0.07	Too steep for surface application	0.08
					Too acid	0.07
MeB:						
Mentor	Somewhat limited		Somewhat limited		Somewhat limited	
	Too acid	0.11	Too acid	0.42	Too acid	0.42
					Too steep for surface application	0.08
MeC:						
Mentor	Somewhat limited		Somewhat limited		Very limited	
	Too acid	0.11	Too acid	0.42	Too steep for surface application	1.00
	Slope	0.04	Slope	0.04	Too acid	0.42
					Too steep for sprinkler application	0.22
Op:						
Olmsted	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Leaching limitation	0.70	Filtering capacity	0.01	Filtering capacity	0.01
	Filtering capacity	0.01				
Or:						
Orrville Variant	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00	Droughty	0.94
	Droughty	0.94	Droughty	0.94	Flooding	0.60
	Too acid	0.05	Too acid	0.21	Too acid	0.21

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Pa:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Leaching limitation	0.50	Restricted permeability	0.31	Restricted permeability	0.31
	Restricted permeability	0.41				
Pc:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Leaching limitation	0.50	Restricted permeability	0.31	Restricted permeability	0.31
	Restricted permeability	0.41				
Pg:						
Pits, Gravel	Not rated		Not rated		Not rated	
Pm:						
Pewamo	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Leaching limitation	0.50	Restricted permeability	0.31	Restricted permeability	0.31
	Restricted permeability	0.41				
ReA:						
Ravenna	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Dense layer	1.00	Too acid	0.77	Too acid	0.77
	Too acid	0.22				
ReB:						
Ravenna	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Dense layer	1.00	Too acid	0.77	Too acid	0.77
	Too acid	0.22			Too steep for surface application	0.08
RsB:						
Rittman	Very limited		Very limited		Very limited	
	Dense layer	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too acid	0.96	Too acid	0.96
	Restricted permeability	0.41	Restricted permeability	0.31	Restricted permeability	0.31
	Too acid	0.37			Too steep for surface application	0.08

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
RsB2:						
Rittman	Very limited		Very limited		Very limited	
	Dense layer	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too acid	0.96	Too acid	0.96
	Restricted permeability	0.41	Restricted permeability	0.31	Restricted permeability	0.31
	Too acid	0.37			Too steep for surface application	0.08
RsC:						
Rittman	Very limited		Very limited		Very limited	
	Dense layer	1.00	Depth to saturated zone	1.00	Too steep for surface application	1.00
	Depth to saturated zone	1.00	Too acid	0.96	Depth to saturated zone	1.00
	Restricted permeability	0.41	Restricted permeability	0.31	Too acid	0.96
	Too acid	0.37	Slope	0.04	Restricted permeability	0.31
	Slope	0.04			Too steep for sprinkler application	0.22
RsC2:						
Rittman	Very limited		Very limited		Very limited	
	Dense layer	1.00	Depth to saturated zone	1.00	Too steep for surface application	1.00
	Depth to saturated zone	1.00	Too acid	0.96	Depth to saturated zone	1.00
	Restricted permeability	0.41	Restricted permeability	0.31	Too acid	0.96
	Too acid	0.37	Slope	0.04	Restricted permeability	0.31
	Slope	0.04			Too steep for sprinkler application	0.22
RsD:						
Rittman	Very limited		Very limited		Very limited	
	Dense layer	1.00	Slope	1.00	Too steep for surface application	1.00
	Slope	1.00	Depth to saturated zone	1.00	Too steep for sprinkler application	1.00
	Depth to saturated zone	1.00	Too acid	0.96	Depth to saturated zone	1.00
	Restricted permeability	0.41	Restricted permeability	0.31	Too acid	0.96
	Too acid	0.37			Restricted permeability	0.31

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RsD2:						
Rittman	Very limited		Very limited		Very limited	
	Dense layer	1.00	Slope	1.00	Too steep for surface application	1.00
	Slope	1.00	Depth to saturated zone	1.00	Too steep for sprinkler application	1.00
	Depth to saturated zone	1.00	Too acid	0.96	Depth to saturated zone	1.00
	Restricted permeability	0.41	Restricted permeability	0.31	Too acid	0.96
	Too acid	0.37			Restricted permeability	0.31
RtC3:						
Rittman	Very limited		Very limited		Very limited	
	Dense layer	1.00	Depth to saturated zone	1.00	Too steep for surface application	1.00
	Depth to saturated zone	1.00	Too acid	0.96	Depth to saturated zone	1.00
	Restricted permeability	0.41	Restricted permeability	0.31	Too acid	0.96
	Too acid	0.37	Slope	0.04	Restricted permeability	0.31
	Slope	0.04			Too steep for sprinkler application	0.22
RtD3:						
Rittman	Very limited		Very limited		Very limited	
	Dense layer	1.00	Slope	1.00	Too steep for surface application	1.00
	Slope	1.00	Depth to saturated zone	1.00	Too steep for sprinkler application	1.00
	Depth to saturated zone	1.00	Too acid	0.96	Depth to saturated zone	1.00
	Restricted permeability	0.41	Restricted permeability	0.31	Too acid	0.96
	Too acid	0.37			Restricted permeability	0.31
SaC:						
Schaffenaker	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Droughty	1.00	Droughty	1.00
	Droughty	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to bedrock	0.65	Too acid	1.00	Too steep for surface application	1.00
	Too acid	0.50	Depth to bedrock	0.65	Too acid	1.00
	Leaching limitation	0.45	Slope	0.01	Depth to bedrock	0.65

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
SaD:						
Schaffenaker	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Droughty	1.00	Droughty	1.00
	Droughty	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	0.65	Too acid	1.00	Too steep for sprinkler application	1.00
	Too acid	0.50	Depth to bedrock	0.65	Too acid	1.00
SaE:						
Schaffenaker	Very limited		Very limited		Very limited	
	Slope	1.00	Droughty	1.00	Droughty	1.00
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Droughty	1.00	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	0.65	Too acid	1.00	Too steep for sprinkler application	1.00
	Too acid	0.50	Depth to bedrock	0.65	Too acid	1.00
SbE:						
Schaffenaker	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Droughty	1.00	Droughty	1.00
	Droughty	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Too acid	0.73	Too acid	1.00	Too steep for surface application	1.00
	Slope	0.63	Slope	0.63	Too acid	1.00
	Leaching limitation	0.45	Depth to bedrock	0.42	Too steep for sprinkler application	0.78
Se:						
Sebring	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Leaching limitation	0.70	Too acid	0.42	Too acid	0.42
	Restricted permeability	0.41	Restricted permeability	0.31	Restricted permeability	0.31
	Too acid	0.11				
Sh:						
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	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	0.60

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Sk:						
Shoals Variant	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00	Droughty	0.91
	Droughty	0.91	Droughty	0.91	Flooding	0.60
SmA:						
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
	Too acid	0.03	Too acid	0.14	Too acid	0.14
So:						
Sloan	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	1.00	Flooding	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Leaching limitation	0.70	Restricted permeability	0.31	Restricted permeability	0.31
	Restricted permeability	0.41				
TmA:						
Tiro	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	0.41	Restricted permeability	0.31	Restricted permeability	0.31
	Too acid	0.05	Too acid	0.21	Too acid	0.21
TmB:						
Tiro	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	0.41	Restricted permeability	0.31	Restricted permeability	0.31
	Too acid	0.05	Too acid	0.21	Too acid	0.21
					Too steep for surface application	0.08
TvB:						
Titusville	Very limited		Very limited		Very limited	
	Dense layer	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Too acid	0.77	Too acid	0.77
	Restricted permeability	0.41	Restricted permeability	0.31	Restricted permeability	0.31
	Too acid	0.22			Too steep for surface application	0.08

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
TvC:						
Titusville	Very limited		Very limited		Very limited	
	Dense layer	1.00	Depth to saturated zone	1.00	Too steep for surface application	1.00
	Depth to saturated zone	1.00	Too acid	0.77	Depth to saturated zone	1.00
	Restricted permeability	0.41	Restricted permeability	0.31	Too acid	0.77
	Too acid	0.22	Slope	0.04	Restricted permeability	0.31
	Slope	0.04			Too steep for sprinkler application	0.22
Uc:						
Udorthents	Not rated		Not rated		Not rated	
Ud:						
Udorthents	Not rated		Not rated		Not rated	
Ur:						
Urban Land	Not rated		Not rated		Not rated	
W:						
Water	Not rated		Not rated		Not rated	
WaA:						
Wadsworth	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Dense layer	1.00	Too acid	0.42	Too acid	0.42
	Restricted permeability	0.41	Restricted permeability	0.31	Restricted permeability	0.31
	Too acid	0.11				
WaB:						
Wadsworth	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Dense layer	1.00	Too acid	0.42	Too acid	0.42
	Restricted permeability	0.41	Restricted permeability	0.31	Restricted permeability	0.31
	Too acid	0.11			Too steep for surface application	0.08
Wc:						
Wallkill	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Leaching limitation	0.50				

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WeD:						
Westmoreland	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.32	Too acid	0.91	Too steep for sprinkler application	1.00
	Droughty	0.02	Droughty	0.02	Too acid	0.91
					Droughty	0.02
WhA:						
Wheeling	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Too acid	0.02	Too acid	0.07	Too acid	0.07
WhB:						
Wheeling	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Too acid	0.02	Too acid	0.07	Too steep for surface application	0.08
					Too acid	0.07
WhC:						
Wheeling	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Slope	0.04	Too acid	0.07	Too steep for surface application	1.00
	Too acid	0.02	Slope	0.04	Too steep for sprinkler application	0.22
					Too acid	0.07
WmD:						
Mentor	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.11	Too acid	0.42	Too steep for sprinkler application	1.00
					Too acid	0.42
Wheeling	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.02	Too acid	0.07	Too steep for sprinkler application	1.00
					Too acid	0.07

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
WsB:						
Wooster	Somewhat limited		Somewhat limited		Somewhat limited	
	Too acid	0.22	Too acid	0.77	Too acid	0.77
					Too steep for surface application	0.08
WsB2:						
Wooster	Somewhat limited		Somewhat limited		Somewhat limited	
	Too acid	0.22	Too acid	0.77	Too acid	0.77
					Too steep for surface application	0.08
WsC:						
Wooster	Somewhat limited		Somewhat limited		Very limited	
	Too acid	0.22	Too acid	0.77	Too steep for surface application	1.00
	Slope	0.04	Slope	0.04	Too acid	0.77
					Too steep for sprinkler application	0.22
WsC2:						
Wooster	Somewhat limited		Somewhat limited		Very limited	
	Too acid	0.22	Too acid	0.77	Too steep for surface application	1.00
	Slope	0.04	Slope	0.04	Too acid	0.77
					Too steep for sprinkler application	0.22
WsD:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.22	Too acid	0.77	Too steep for sprinkler application	1.00
					Too acid	0.77
WsD2:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.22	Too acid	0.77	Too steep for sprinkler application	1.00
					Too acid	0.77
WsD3:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.22	Too acid	0.77	Too steep for sprinkler application	1.00
					Too acid	0.77

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WsE:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.22	Too acid	0.77	Too steep for sprinkler application	1.00
					Too acid	0.77
WsE2:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Restricted permeability	0.41	Too acid	0.91	Too steep for sprinkler application	1.00
	Too acid	0.32	Restricted permeability	0.31	Too acid	0.91
	Depth to saturated zone	0.24	Depth to saturated zone	0.24	Restricted permeability	0.31
					Depth to saturated zone	0.24
WsF:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.22	Too acid	0.77	Too steep for sprinkler application	1.00
					Too acid	0.77
WtB:						
Wooster	Somewhat limited		Somewhat limited		Somewhat limited	
	Too acid	0.22	Too acid	0.77	Too acid	0.77
					Too steep for surface application	0.08
Chili	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Droughty	0.20	Too acid	0.42	Too acid	0.42
	Too acid	0.11	Droughty	0.20	Droughty	0.20
					Too steep for surface application	0.08

TABLE 25.--AGRICULTURAL WASTE MANAGEMENT--Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WtC:						
Wooster	Somewhat limited		Somewhat limited		Very limited	
	Too acid	0.11	Too acid	0.42	Too steep for surface application	1.00
	Slope	0.04	Slope	0.04	Too acid	0.42
					Too steep for sprinkler application	0.22
Chili	Very limited		Very limited		Very limited	
	Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
	Droughty	0.20	Too acid	0.42	Too steep for surface application	1.00
	Too acid	0.11	Droughty	0.20	Too acid	0.42
	Slope	0.04	Slope	0.04	Too steep for sprinkler application	0.22
					Droughty	0.20
WvE3:						
Wooster	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Too steep for surface application	1.00
	Too acid	0.22	Too acid	0.77	Too steep for sprinkler application	1.00
					Too acid	0.77

TABLE 26.--WATER MANAGEMENT PART 1

(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 on page 245 for further explanation of ratings in this table.)

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AcD2:						
Alexandria	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.03	Piping	0.50	Depth to water	1.00
AdB:						
Alexandria	Not limited		Somewhat limited		Unlimited	
			Piping	0.50		
AdC:						
Alexandria	Not limited		Somewhat limited		Unlimited	
			Piping	0.50		
AdC2:						
Alexandria	Not limited		Somewhat limited		Unlimited	
			Piping	0.50		
AdD:						
Alexandria	Somewhat limited		Somewhat limited		Unlimited	
	Slope	0.03	Piping	0.50		
AdD2:						
Alexandria	Somewhat limited		Somewhat limited		Unlimited	
	Slope	0.03	Piping	0.50		
AdE:						
Alexandria	Somewhat limited		Somewhat limited		Unlimited	
	Slope	0.18	Piping	0.50		
AdE2:						
Alexandria	Somewhat limited		Somewhat limited		Unlimited	
	Slope	0.18	Piping	0.50		
AdF:						
Alexandria	Somewhat limited		Somewhat limited		Unlimited	
	Slope	0.64	Piping	0.50		
AeD3:						
Alexandria	Somewhat limited		Somewhat limited		Unlimited	
	Slope	0.03	Piping	0.50		
Ag:						
Algiers	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Thin layer	0.57	Cutbanks cave	0.10
			Piping	0.50		
BeB:						
Belmore	Very limited		Not limited		Unlimited	
	Seepage	1.00				
BeC:						
Belmore	Very limited		Not limited		Unlimited	
	Seepage	1.00				
BeD:						
Belmore	Very limited		Not limited		Unlimited	
	Seepage	1.00				
	Slope	0.03				

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BnA:						
Bennington----------	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
BnB:						
Bennington----------	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
BnB2:						
Bennington----------	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
BpB:						
Bennington----------	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
Fitchville----------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.50	Cutbanks cave	0.10
BrB:						
Berks----------	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Depth to bedrock	0.56	Piping	1.00		
			Content of large stones	0.89		
			Thin layer	0.57		
BrC:						
Berks----------	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Depth to bedrock	0.56	Piping	1.00		
			Content of large stones	0.89		
			Thin layer	0.57		
BrD:						
Berks----------	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Depth to bedrock	0.56	Piping	1.00		
	Slope	0.03	Content of large stones	0.89		
			Thin layer	0.57		
BsF:						
Berks----------	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Slope	0.85	Piping	1.00		
	Depth to bedrock	0.56	Content of large stones	0.89		
			Thin layer	0.57		
Rock Outcrop--------	Not Rated		Not Rated		Not Rated	

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BtA:						
Bogart	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Cutbanks cave	1.00
			Piping	1.00	Depth to water	0.01
			Depth to saturated zone	1.00		
BtB:						
Bogart	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Cutbanks cave	1.00
			Piping	1.00	Depth to water	0.01
			Depth to saturated zone	1.00		
BvA:						
Bogart	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Cutbanks cave	1.00
			Piping	1.00	Depth to water	0.01
			Depth to saturated zone	1.00		
BvB:						
Bogart	Very limited		Very limited		Very limited	
	Seepage	1.00	Seepage	1.00	Cutbanks cave	1.00
			Piping	1.00	Depth to water	0.01
			Depth to saturated zone	1.00		
BwC:						
Brownsville	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Depth to bedrock	0.01	Content of large stones	0.01		
BwD:						
Brownsville	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Slope	0.03	Content of large stones	0.01		
	Depth to bedrock	0.01				
BxE:						
Brownsville	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Slope	0.18	Piping	1.00		
	Depth to bedrock	0.01				
Westmoreland	Very limited		Very limited		Unlimited	
	Slippage	1.00	Piping	1.00		
	Seepage	0.50				
	Slope	0.18				
CdB:						
Canfield	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Piping	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Thin layer	0.07	Depth to water	0.01

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CdB2:						
Canfield	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Piping	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Thin layer	0.07	Depth to water	0.01
CdC:						
Canfield	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Piping	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Thin layer	0.07	Depth to water	0.01
CdC2:						
Canfield	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Piping	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Thin layer	0.07	Depth to water	0.01
CgB:						
Cardington	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01
CgB2:						
Cardington	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01
CgC:						
Cardington	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01
CgC2:						
Cardington	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01
ChC3:						
Cardington	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01
Ck:						
Carlisle	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	0.10
			Depth to saturated zone	1.00		
			Content of organic matter	1.00		

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CmB:						
Chili	Very limited		Very limited		Unlimited	
	Seepage	1.00	Piping	1.00		
CnB:						
Chili	Very limited		Very limited		Unlimited	
	Seepage	1.00	Piping	1.00		
			Thin layer	0.47		
CnC:						
Chili	Very limited		Very limited		Unlimited	
	Seepage	1.00	Piping	1.00		
			Thin layer	0.47		
CoD:						
Chili	Very limited		Very limited		Unlimited	
	Seepage	1.00	Piping	1.00		
	Slope	0.03	Thin layer	0.47		
Conotton	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Slope	0.03	Piping	1.00		
CoD3:						
Chili	Very limited		Very limited		Unlimited	
	Seepage	1.00	Piping	1.00		
	Slope	0.03	Thin layer	0.47		
Conotton	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Slope	0.03	Piping	1.00		
CoE:						
Chili	Very limited		Very limited		Unlimited	
	Seepage	1.00	Piping	1.00		
	Slope	0.18	Thin layer	0.47		
Conotton	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Slope	0.18	Piping	1.00		
CoF:						
Chili	Very limited		Very limited		Unlimited	
	Seepage	1.00	Piping	1.00		
	Slope	0.64	Thin layer	0.47		
Conotton	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Slope	0.64	Piping	1.00		
Cp:						
Condit	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Hard to compact	1.00	Cutbanks cave	0.10
Cr:						
Condit	Not limited		Very limited		Somewhat limited	
			Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.50		

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Cs:						
Condit	Not limited		Very limited		Unlimited	
			Ponding	1.00		
			Depth to saturated zone	1.00		
			Piping	0.50		
Bennington	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.98
			Piping	0.50	Cutbanks cave	0.10
CtC:						
Conotton	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
			Piping	1.00		
CvC:						
Coshocton	Not limited		Very limited		Somewhat limited	
			Hard to compact	1.00	Slow refill	0.98
			Depth to saturated zone	0.95	Cutbanks cave	0.10
					Depth to water	0.02
DmB:						
Digby	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
			Seepage	1.00		
			Piping	1.00		
FbA:						
Fitchville	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.25	Depth to saturated zone	1.00	Slow refill	0.46
			Piping	0.50	Cutbanks cave	0.10
FcA:						
Fitchville	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.50	Cutbanks cave	0.10
FcB:						
Fitchville	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.50	Cutbanks cave	0.10
FdA:						
Fitchville	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.50	Cutbanks cave	0.10
Bennington	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
FgA:						
Fitchville Variant	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
FgB:						
Fitchville Variant	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
Fr:						
Frenchtown	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.28
			Piping	1.00	Cutbanks cave	0.10
			Thin layer	0.33		
GdB:						
Gilpin	Somewhat limited		Very limited		Unlimited	
	Depth to bedrock	0.85	Piping	1.00		
	Seepage	0.50	Thin layer	0.27		
GdC:						
Gilpin	Somewhat limited		Very limited		Unlimited	
	Depth to bedrock	0.85	Piping	1.00		
	Seepage	0.50	Thin layer	0.27		
GfA:						
Glenford	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Piping	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Thin layer	0.33	Depth to water	0.01
GfB:						
Glenford	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Piping	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Thin layer	0.33	Depth to water	0.01
GfC:						
Glenford	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Piping	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Thin layer	0.33	Depth to water	0.01
GrB:						
Gresham	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.50	Cutbanks cave	0.10
HaB:						
Haney	Very limited		Very limited		Very limited	
	Seepage	1.00	Piping	1.00	Cutbanks cave	1.00
			Depth to saturated zone	1.00	Depth to water	0.01
HfB:						
Hanover	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
HfC:						
Hanover	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HfC2:						
Hanover	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
HfC3:						
Hanover	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
HfD:						
Hanover	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
	Slope	0.03				
HfD2:						
Hanover	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
	Slope	0.03				
HfE:						
Hanover	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
	Slope	0.18				
Ho:						
Holly	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.50	Cutbanks cave	0.10
			Thin layer	0.33		
HpB:						
Homewood	Somewhat limited		Somewhat limited		Unlimited	
	Seepage	0.50	Piping	0.50		
			Depth to saturated zone	0.24		
HpC:						
Homewood	Somewhat limited		Somewhat limited		Unlimited	
	Seepage	0.50	Piping	0.50		
			Depth to saturated zone	0.24		
HpD2:						
Homewood	Somewhat limited		Somewhat limited		Unlimited	
	Seepage	0.50	Piping	0.50		
	Slope	0.03	Depth to saturated zone	0.24		
HpE2:						
Homewood	Somewhat limited		Somewhat limited		Unlimited	
	Seepage	0.50	Piping	0.50		
	Slope	0.18	Depth to saturated zone	0.24		
JtA:						
Jimtown	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	1.00		
			Piping	1.00		

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KbA:						
Kibbie	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.50	Cutbanks cave	0.10
La:						
Landes	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
			Piping	1.00		
LfB:						
Latham	Somewhat limited		Very limited		Somewhat limited	
	Depth to bedrock	0.08	Hard to compact	1.00	Slow refill	0.96
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Thin layer	0.80	Depth to water	0.01
LfC:						
Latham	Somewhat limited		Very limited		Somewhat limited	
	Depth to bedrock	0.08	Hard to compact	1.00	Slow refill	0.96
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Thin layer	0.80	Depth to water	0.01
Lg:						
Lenawee	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Ponding	1.00		
			Depth to saturated zone	1.00		
			Piping	0.50		
Lk:						
Linwood	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	0.10
			Depth to saturated zone	1.00		
			Piping	1.00		
			Thin layer	0.33		
Lo:						
Lobdell	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.50	Cutbanks cave	0.10
			Thin layer	0.13	Depth to water	0.01
LrB:						
Lordstown	Very limited		Very limited		Unlimited	
	Seepage	1.00	Piping	1.00		
	Depth to bedrock	0.66	Thin layer	0.97		
LrC:						
Lordstown	Very limited		Very limited		Unlimited	
	Seepage	1.00	Piping	1.00		
	Depth to bedrock	0.66	Thin layer	0.97		
LrD:						
Lordstown	Very limited		Very limited		Unlimited	
	Seepage	1.00	Piping	1.00		
	Depth to bedrock	0.66	Thin layer	0.97		
	Slope	0.03				

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LrE:						
Lordstown	Somewhat limited		Very limited		Unlimited	
	Depth to bedrock	0.85	Seepage	1.00		
	Slope	0.50	Piping	1.00		
	Seepage	0.50	Thin layer	0.90		
LrF:						
Lordstown	Somewhat limited		Very limited		Unlimited	
	Depth to bedrock	0.85	Seepage	1.00		
	Slope	0.64	Piping	1.00		
	Seepage	0.50	Thin layer	0.90		
LtE:						
Lordstown	Very limited		Very limited		Unlimited	
	Seepage	1.00	Piping	1.00		
	Depth to bedrock	0.66	Thin layer	0.97		
	Slope	0.18				
Loudonville	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Depth to bedrock	0.56	Piping	1.00		
	Slope	0.18	Thin layer	0.97		
LtF:						
Lordstown	Very limited		Very limited		Unlimited	
	Seepage	1.00	Piping	1.00		
	Depth to bedrock	0.66	Thin layer	0.97		
	Slope	0.64				
Loudonville	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Slope	0.64	Piping	1.00		
	Depth to bedrock	0.56	Thin layer	0.97		
LvB:						
Loudonville	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Depth to bedrock	0.56	Piping	1.00		
			Thin layer	0.97		
LvC:						
Loudonville	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Depth to bedrock	0.56	Piping	1.00		
			Thin layer	0.97		
LvD:						
Loudonville	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Depth to bedrock	0.56	Piping	1.00		
	Slope	0.03	Thin layer	0.97		
Ly:						
Luray	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Ponding	0.50	Cutbanks cave	0.10
			Piping	0.50		

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LzB:						
Lykens	Somewhat limited		Somewhat limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	0.95	Slow refill	0.28
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.02
MeB:						
Mentor	Somewhat limited		Somewhat limited		Unlimited	
	Seepage	0.50	Piping	0.50		
			Thin layer	0.17		
MeC:						
Mentor	Somewhat limited		Somewhat limited		Unlimited	
	Seepage	0.50	Piping	0.50		
			Thin layer	0.17		
Op:						
Olmsted	Very limited		Very limited		Very limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
			Depth to saturated zone	1.00		
			Piping	1.00		
Or:						
Orrville Variant	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	0.56	Seepage	1.00	Cutbanks cave	1.00
			Piping	1.00		
Pa:						
Pewamo	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Ponding	0.50	Cutbanks cave	0.10
			Piping	0.50		
Pc:						
Pewamo	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Ponding	0.50	Cutbanks cave	0.10
			Piping	0.50		
Pg:						
Pits, Gravel	Not Rated		Not Rated		Not Rated	
Pm:						
Pewamo	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Ponding	0.50	Cutbanks cave	0.10
			Piping	0.50		
ReA:						
Ravenna	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.50	Cutbanks cave	0.10

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ReB:						
Ravenna	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.50	Cutbanks cave	0.10
RsB:						
Rittman	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01
RsB2:						
Rittman	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01
RsC:						
Rittman	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01
RsC2:						
Rittman	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01
RsD:						
Rittman	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.03	Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01
RsD2:						
Rittman	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.03	Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01
RtC3:						
Rittman	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01
RtD3:						
Rittman	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.03	Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SaC:						
Schaffenaker--------	Very limited		Very limited		Unlimited	
	Seepage	1.00	Thin layer	1.00		
	Depth to bedrock	0.91	Seepage	1.00		
			Piping	1.00		
SaD:						
Schaffenaker--------	Very limited		Very limited		Unlimited	
	Seepage	1.00	Thin layer	1.00		
	Depth to bedrock	0.91	Seepage	1.00		
	Slope	0.03	Piping	1.00		
SaE:						
Schaffenaker--------	Very limited		Very limited		Unlimited	
	Seepage	1.00	Thin layer	1.00		
	Depth to bedrock	0.91	Seepage	1.00		
	Slope	0.45	Piping	1.00		
SbE:						
Schaffenaker--------	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Depth to bedrock	0.85	Piping	1.00		
	Slope	0.01	Thin layer	0.83		
Se:						
Sebring----------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.50		
			Thin layer	0.07		
Sh:						
Shoals----------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	1.00	Cutbanks cave	0.10
			Ponding	0.50		
Sk:						
Shoals Variant------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Seepage	1.00		
			Piping	1.00		
SmA:						
Sleeth----------	Very limited		Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
			Piping	0.50	Depth to water	0.01
So:						
Sloan----------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Ponding	1.00	Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.50		
TmA:						
Tiro----------	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TmB:						
Tiro	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
TvB:						
Titusville	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01
TvC:						
Titusville	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.50	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.50	Cutbanks cave	0.10
					Depth to water	0.01
Uc:						
Udorthents	Not Rated		Not Rated		Not Rated	
Ud:						
Udorthents	Not Rated		Not Rated		Not Rated	
Ur:						
Urban Land	Not Rated		Not Rated		Not Rated	
WaA:						
Wadsworth	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
			Thin layer	0.17		
WaB:						
Wadsworth	Not limited		Very limited		Somewhat limited	
			Depth to saturated zone	1.00	Slow refill	0.96
			Piping	0.50	Cutbanks cave	0.10
			Thin layer	0.17		
Wc:						
Wallkill	Very limited		Very limited		Somewhat limited	
	Seepage	1.00	Ponding	1.00	Cutbanks cave	0.10
			Depth to saturated zone	1.00		
			Content of organic matter	1.00		
WeD:						
Westmoreland	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Seepage	1.00		
	Slope	0.03	Piping	1.00		
WhA:						
Wheeling	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
			Piping	1.00		

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WhB:						
Wheeling	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
			Piping	1.00		
WhC:						
Wheeling	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
			Piping	1.00		
WmD:						
Mentor	Somewhat limited		Somewhat limited		Unlimited	
	Seepage	0.50	Piping	0.50		
	Slope	0.03	Thin layer	0.17		
Wheeling	Very limited		Very limited		Unlimited	
	Seepage	1.00	Seepage	1.00		
	Slope	0.03	Piping	1.00		
WsB:						
Wooster	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
			Thin layer	0.33		
WsB2:						
Wooster	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
			Thin layer	0.33		
WsC:						
Wooster	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
			Thin layer	0.33		
WsC2:						
Wooster	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
			Thin layer	0.33		
WsD:						
Wooster	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
	Slope	0.03	Thin layer	0.33		
WsD2:						
Wooster	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
	Slope	0.03	Thin layer	0.33		
WsD3:						
Wooster	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
	Slope	0.03	Thin layer	0.33		
WsE:						
Wooster	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
	Slope	0.18	Thin layer	0.33		
WsE2:						
Wooster	Somewhat limited		Somewhat limited		Unlimited	
	Seepage	0.50	Piping	0.50		
	Slope	0.18	Depth to saturated zone	0.24		

TABLE 26.--WATER MANAGEMENT PART 1--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WsF:						
Wooster	Somewhat limited		Very limited		Unlimited	
	Slope	0.64	Piping	1.00		
	Seepage	0.50	Thin layer	0.33		
WtB:						
Wooster	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
			Thin layer	0.33		
Chili	Very limited		Very limited		Unlimited	
	Seepage	1.00	Piping	1.00		
			Thin layer	0.47		
WtC:						
Wooster	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
			Thin layer	0.33		
Chili	Very limited		Very limited		Unlimited	
	Seepage	1.00	Piping	1.00		
			Thin layer	0.47		
WvE3:						
Wooster	Somewhat limited		Very limited		Unlimited	
	Seepage	0.50	Piping	1.00		
	Slope	0.45	Thin layer	0.33		

TABLE 27.--WATER MANAGEMENT PART 2

(The information in this table indicates the dominant soil condition but does not eliminate the need for on-site investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text on page 245 for further explanation of ratings in this table.)

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AcD2:						
Alexandria	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.22	Restricted permeability	0.22	Restricted permeability	0.22
AdB:						
Alexandria	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Restricted permeability	0.22	Restricted permeability	0.22	Depth to saturated zone	1.00
					Restricted permeability	0.22
					Slope	0.04
AdC:						
Alexandria	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Slope	1.00	Slope	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.22	Restricted permeability	0.22	Slope	0.96
					Restricted permeability	0.22
AdC2:						
Alexandria	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Slope	1.00	Slope	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.22	Restricted permeability	0.22	Slope	0.96
					Restricted permeability	0.22
AdD:						
Alexandria	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Frost action	1.00
	Water erosion	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.22	Restricted permeability	0.22	Depth to saturated zone	1.00
					Restricted permeability	0.22
AdD2:						
Alexandria	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Frost action	1.00
	Water erosion	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.22	Restricted permeability	0.22	Depth to saturated zone	1.00
					Restricted permeability	0.22

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AdE:						
Alexandria	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Frost action	1.00
	Water erosion	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.22	Restricted permeability	0.22	Depth to saturated zone	1.00
					Restricted permeability	0.22
AdE2:						
Alexandria	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Frost action	1.00
	Water erosion	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.22	Restricted permeability	0.22	Depth to saturated zone	1.00
					Restricted permeability	0.22
AdF:						
Alexandria	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Frost action	1.00
	Water erosion	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.22	Restricted permeability	0.22	Depth to saturated zone	1.00
					Restricted permeability	0.22
AeD3:						
Alexandria	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Frost action	1.00
	Water erosion	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.22	Restricted permeability	0.22	Depth to saturated zone	1.00
					Restricted permeability	0.22
Ag:						
Algiers	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
BeB:						
Belmore	Not Limited		Not Limited		Very limited	
					Depth to saturated zone	1.00
					Slope	0.04
BeC:						
Belmore	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to saturated zone	1.00
					Slope	0.96
BeD:						
Belmore	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to saturated zone	1.00

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BnA:						
Bennington	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91		
BnB:						
Bennington	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91	Slope	0.04
BnB2:						
Bennington	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91	Slope	0.04
BpB:						
Bennington	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91	Slope	0.04
Fitchville	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22	Slope	0.04
BrB:						
Berks	Very Limited		Very Limited		Very limited	
	Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
	Depth to bedrock	1.00	Depth to soft bedrock	0.64	Depth to saturated zone	1.00
	Droughty	1.00	Depth to bedrock	0.01	Depth to bedrock	0.17
	Depth to soft bedrock	0.64			Slope	0.04
BrC:						
Berks	Very Limited		Very Limited		Very limited	
	Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
	Depth to bedrock	1.00	Slope	1.00	Depth to saturated zone	1.00
	Droughty	1.00	Depth to soft bedrock	0.64	Slope	0.96
	Slope	1.00	Depth to bedrock	0.01	Depth to bedrock	0.17
	Depth to soft bedrock	0.64				

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BrD:						
Berks	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
	Depth to bedrock	1.00	Depth to soft bedrock	0.64	Depth to saturated zone	1.00
	Droughty	1.00	Depth to bedrock	0.01	Depth to bedrock	0.17
	Depth to soft bedrock	0.64				
BsF:						
Berks	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Content of large stones	1.00	Content of large stones	1.00	Content of large stones	1.00
	Depth to bedrock	1.00	Depth to soft bedrock	0.64	Depth to saturated zone	1.00
	Droughty	1.00	Depth to bedrock	0.01	Depth to bedrock	0.17
	Depth to soft bedrock	0.64				
Rock Outcrop	Not Rated		Not Rated		Not Rated	
BtA:						
Bogart	Somewhat Limited		Very Limited		Not Limited	
	Depth to saturated zone	0.86	Depth to saturated zone	1.00		
BtB:						
Bogart	Somewhat Limited		Very Limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	1.00	Slope	0.04
BvA:						
Bogart	Somewhat Limited		Very Limited		Not Limited	
	Depth to saturated zone	0.86	Depth to saturated zone	1.00		
BvB:						
Bogart	Somewhat Limited		Very Limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	1.00	Slope	0.04
BwC:						
Brownsville	Very Limited		Very Limited		Very limited	
	Content of large stones	1.00	Content of large stones	1.00	Depth to saturated zone	1.00
	Slope	1.00	Slope	1.00	Content of large stones	1.00
					Slope	0.96
BwD:						
Brownsville	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Content of large stones	1.00	Content of large stones	1.00	Depth to saturated zone	1.00
					Content of large stones	1.00

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BxE:						
Brownsville	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Content of large stones	1.00	Content of large stones	1.00	Depth to saturated zone	1.00
					Content of large stones	0.91
Westmoreland	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Content of large stones	0.14	Content of large stones	0.14		
CdB:						
Canfield	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Rooting depth	1.00	Depth to saturated zone	1.00	Slope	0.04
	Droughty	1.00	Rooting depth	1.00		
	Depth to saturated zone	0.86				
CdB2:						
Canfield	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Rooting depth	1.00	Depth to saturated zone	1.00	Slope	0.04
	Droughty	1.00	Rooting depth	1.00		
	Depth to saturated zone	0.86				
CdC:						
Canfield	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Rooting depth	1.00	Depth to saturated zone	1.00	Slope	0.96
	Slope	1.00	Rooting depth	1.00		
	Droughty	1.00	Slope	1.00		
	Depth to saturated zone	0.86				
CdC2:						
Canfield	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Rooting depth	1.00	Depth to saturated zone	1.00	Slope	0.96
	Slope	1.00	Rooting depth	1.00		
	Droughty	1.00	Slope	1.00		
	Depth to saturated zone	0.86				
CgB:						
Cardington	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	0.86	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22	Slope	0.04

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CgB2:						
Cardington	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	0.86	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22	Slope	0.04
CgC:						
Cardington	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Slope	1.00	Depth to saturated zone	1.00	Slope	0.96
	Depth to saturated zone	0.86	Slope	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		
CgC2:						
Cardington	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Slope	1.00	Depth to saturated zone	1.00	Slope	0.96
	Depth to saturated zone	0.86	Slope	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		
ChC3:						
Cardington	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Slope	1.00	Depth to saturated zone	1.00	Slope	0.96
	Depth to saturated zone	0.86	Slope	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		
Ck:						
Carlisle	Very Limited		Very Limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
			Ponding	1.00	Frost action	1.00
					Subsidence	1.00
CmB:						
Chili	Not Limited		Not Limited		Very limited	
					Depth to saturated zone	1.00
					Slope	0.04
CnB:						
Chili	Not Limited		Not Limited		Very limited	
					Depth to saturated zone	1.00
					Slope	0.04
CnC:						
Chili	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to saturated zone	1.00
					Slope	0.96

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CoD:						
Chili	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to saturated zone	1.00
Conotton	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Droughty	1.00	Content of large stones	0.66	Depth to saturated zone	1.00
	Content of large stones	0.66				
CoD3:						
Chili	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to saturated zone	1.00
Conotton	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Droughty	1.00	Content of large stones	0.66	Depth to saturated zone	1.00
	Content of large stones	0.66				
CoE:						
Chili	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to saturated zone	1.00
Conotton	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Droughty	1.00	Content of large stones	0.66	Depth to saturated zone	1.00
	Content of large stones	0.66				
CoF:						
Chili	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Depth to saturated zone	1.00
Conotton	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Droughty	1.00	Content of large stones	0.66	Depth to saturated zone	1.00
	Content of large stones	0.66				
Cp:						
Condit	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91		

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Cr:						
Condit	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.91	Ponding	1.00	Restricted permeability	0.91
			Restricted permeability	0.91		
Cs:						
Condit	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.91	Ponding	1.00	Restricted permeability	0.91
			Restricted permeability	0.91		
Bennington	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.40
	Restricted permeability	0.40	Restricted permeability	0.40		
CtC:						
Conotton	Very Limited		Somewhat Limited		Very limited	
	Droughty	1.00	Content of large stones	0.66	Depth to saturated zone	1.00
	Content of large stones	0.66			Slope	0.63
CvC:						
Coshocton	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Slope	1.00	Slope	1.00	Slope	0.96
	Depth to saturated zone	0.68	Depth to saturated zone	1.00	Restricted permeability	0.40
	Restricted permeability	0.40	Restricted permeability	0.40		
DmB:						
Digby	Very Limited		Very Limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
FbA:						
Fitchville	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	0.96	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		
FcA:						
Fitchville	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
FcB:						
Fitchville----------	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22	Slope	0.04
FdA:						
Fitchville----------	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		
Bennington----------	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91		
FgA:						
Fitchville Variant--	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		
FgB:						
Fitchville Variant--	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22	Slope	0.04
Fr:						
Frenchtown----------	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		
GdB:						
Gilpin----------	Very Limited		Somewhat Limited		Very limited	
	Depth to bedrock	1.00	Content of large stones	0.73	Depth to saturated zone	1.00
	Content of large stones	0.73	Depth to bedrock	0.42	Depth to bedrock	0.11
					Slope	0.04
GdC:						
Gilpin----------	Very Limited		Very Limited		Very limited	
	Depth to bedrock	1.00	Slope	1.00	Depth to saturated zone	1.00
	Slope	1.00	Content of large stones	0.73	Slope	0.96
	Content of large stones	0.73	Depth to bedrock	0.42	Depth to bedrock	0.11

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GfA:						
Glenford	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	0.86	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		
GfB:						
Glenford	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	0.86	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22	Slope	0.04
GfC:						
Glenford	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Slope	1.00	Depth to saturated zone	1.00	Slope	0.96
	Depth to saturated zone	0.86	Slope	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		
GrB:						
Gresham	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22	Slope	0.04
HaB:						
Haney	Somewhat Limited		Very Limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	1.00	Slope	0.04
HfB:						
Hanover	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Slope	0.04
	Droughty	1.00				
HfC:						
Hanover	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Slope	0.96
	Slope	1.00	Slope	1.00		
	Droughty	1.00				
HfC2:						
Hanover	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Slope	0.96
	Slope	1.00	Slope	1.00		
	Droughty	1.00				

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HfC3:						
Hanover	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Slope	0.96
	Slope	1.00	Slope	1.00		
	Droughty	1.00				
HfD:						
Hanover	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00		
	Droughty	1.00				
HfD2:						
Hanover	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00		
	Droughty	1.00				
HfE:						
Hanover	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00		
	Droughty	1.00				
Ho:						
Holly	Very Limited		Very Limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
					Flooding	1.00
HpB:						
Homewood	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91	Slope	0.04
	Depth to saturated zone	0.02				
HpC:						
Homewood	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Slope	0.96
	Slope	1.00	Slope	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91		
	Depth to saturated zone	0.02				

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HpD2:						
Homewood	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91		
	Depth to saturated zone	0.02				
HpE2:						
Homewood	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Restricted permeability	0.91
	Restricted permeability	0.91	Restricted permeability	0.91		
	Depth to saturated zone	0.02				
JtA:						
Jimtown	Very Limited		Very Limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
KbA:						
Kibbie	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
La:						
Landes	Not Limited		Very Limited		Very limited	
			Too sandy	1.00	Cutbanks cave	1.00
					Flooding	1.00
					Depth to saturated zone	1.00
LfB:						
Latham	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Restricted permeability	0.92	Depth to saturated zone	1.00	Restricted permeability	0.92
	Depth to saturated zone	0.86	Restricted permeability	0.92	Depth to bedrock	0.07
	Depth to soft bedrock	0.29	Depth to soft bedrock	0.29	Slope	0.04
LfC:						
Latham	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Slope	1.00	Depth to saturated zone	1.00	Slope	0.96
	Restricted permeability	0.91	Slope	1.00	Restricted permeability	0.91
	Depth to saturated zone	0.86	Restricted permeability	0.91	Depth to bedrock	0.07
	Depth to soft bedrock	0.29	Depth to soft bedrock	0.29		

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Lg:						
Lenawee	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.22	Ponding	1.00	Restricted permeability	0.22
			Restricted permeability	0.22		
Lk:						
Linwood	Very Limited		Very Limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
			Ponding	1.00	Frost action	1.00
					Subsidence	1.00
Lo:						
Lobdell	Very Limited		Very Limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Flooding	0.50
	Depth to saturated zone	0.86	Depth to saturated zone	1.00		
LrB:						
Lordstown	Very Limited		Somewhat Limited		Very limited	
	Depth to bedrock	1.00	Content of large stones	0.43	Depth to saturated zone	1.00
	Content of large stones	0.43	Depth to bedrock	0.06	Slope	0.04
					Depth to bedrock	0.02
LrC:						
Lordstown	Very Limited		Very Limited		Very limited	
	Depth to bedrock	1.00	Slope	1.00	Depth to saturated zone	1.00
	Slope	1.00	Content of large stones	0.43	Slope	0.96
	Content of large stones	0.43	Depth to bedrock	0.06	Depth to bedrock	0.02
LrD:						
Lordstown	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Content of large stones	0.43	Depth to saturated zone	1.00
	Content of large stones	0.43	Depth to bedrock	0.06	Depth to bedrock	0.02
LrE:						
Lordstown	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	0.42	Depth to saturated zone	1.00
	Droughty	1.00	Content of large stones	0.15	Depth to bedrock	0.11
	Content of large stones	0.15				

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LrF:						
Lordstown	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	0.42	Depth to saturated zone	1.00
	Droughty	1.00	Content of large stones	0.15	Depth to bedrock	0.11
	Content of large stones	0.15				
LtE:						
Lordstown	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Content of large stones	0.43	Depth to saturated zone	1.00
	Content of large stones	0.43	Depth to bedrock	0.06	Depth to bedrock	0.02
Loudonville	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Content of large stones	0.26	Depth to saturated zone	1.00
	Content of large stones	0.26	Depth to bedrock	0.01	Content of large stones	0.91
					Depth to bedrock	0.01
LtF:						
Lordstown	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Content of large stones	0.43	Depth to saturated zone	1.00
	Content of large stones	0.43	Depth to bedrock	0.06	Depth to bedrock	0.02
Loudonville	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Content of large stones	0.26	Depth to saturated zone	1.00
	Content of large stones	0.26	Depth to bedrock	0.01	Content of large stones	0.91
					Depth to bedrock	0.01
LvB:						
Loudonville	Very Limited		Somewhat Limited		Very limited	
	Depth to bedrock	1.00	Content of large stones	0.26	Depth to saturated zone	1.00
	Content of large stones	0.26	Depth to bedrock	0.01	Content of large stones	0.91
					Slope	0.04
					Depth to bedrock	0.01
LvC:						
Loudonville	Very Limited		Very Limited		Very limited	
	Depth to bedrock	1.00	Slope	1.00	Depth to saturated zone	1.00
	Slope	1.00	Content of large stones	0.26	Slope	0.96
	Content of large stones	0.26	Depth to bedrock	0.01	Content of large stones	0.91
					Depth to bedrock	0.01

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LvD:						
Loudonville	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Content of large stones	0.26	Depth to saturated zone	1.00
	Content of large stones	0.26	Depth to bedrock	0.01	Content of large stones	0.91
					Depth to bedrock	0.01
Ly:						
Luray	Very Limited		Very Limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.22	Ponding	0.50	Ponding	0.50
			Restricted permeability	0.22	Restricted permeability	0.22
LzB:						
Lykens	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	0.68	Depth to saturated zone	1.00	Restricted permeability	0.40
	Restricted permeability	0.40	Restricted permeability	0.40	Slope	0.04
MeB:						
Mentor	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
					Slope	0.04
MeC:						
Mentor	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
	Slope	1.00	Slope	1.00	Slope	0.96
Op:						
Olmsted	Very Limited		Very Limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
			Ponding	1.00	Frost action	1.00
Or:						
Orrville Variant	Very Limited		Very Limited		Very limited	
	Depth to bedrock	1.00	Depth to saturated zone	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Content of large stones	0.59	Flooding	1.00
	Droughty	1.00	Depth to bedrock	0.01	Depth to bedrock	0.01
	Content of large stones	0.59				
Pa:						
Pewamo	Very Limited		Very Limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.22	Ponding	0.50	Ponding	0.50
			Restricted permeability	0.22	Restricted permeability	0.22

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Pc:						
Pewamo	Very Limited		Very Limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.22	Ponding	0.50	Ponding	0.50
			Restricted permeability	0.22	Restricted permeability	0.22
Pg:						
Pits, Gravel	Not Rated		Not Rated		Not Rated	
Pm:						
Pewamo	Very Limited		Very Limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.22	Ponding	0.50	Ponding	0.50
			Restricted permeability	0.22	Restricted permeability	0.22
ReA:						
Ravenna	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
ReB:						
Ravenna	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	0.04
RsB:						
Rittman	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Rooting depth	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Droughty	1.00	Rooting depth	1.00	Slope	0.04
	Depth to saturated zone	0.86	Restricted permeability	0.22		
	Restricted permeability	0.22				
RsB2:						
Rittman	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Rooting depth	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Droughty	1.00	Rooting depth	1.00	Slope	0.04
	Depth to saturated zone	0.86	Restricted permeability	0.22		
	Restricted permeability	0.22				
RsC:						
Rittman	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Rooting depth	1.00	Depth to saturated zone	1.00	Slope	0.96
	Droughty	1.00	Rooting depth	1.00	Restricted permeability	0.22
	Slope	1.00	Slope	1.00		
	Depth to saturated zone	0.86	Restricted permeability	0.22		

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RsC2:						
Rittman	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Rooting depth	1.00	Depth to saturated zone	1.00	Slope	0.96
	Droughty	1.00	Rooting depth	1.00	Restricted permeability	0.22
	Slope	1.00	Slope	1.00		
	Depth to saturated zone	0.86	Restricted permeability	0.22		
RsD:						
Rittman	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Frost action	1.00
	Water erosion	1.00	Slope	1.00	Slope	1.00
	Rooting depth	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Droughty	1.00	Rooting depth	1.00		
	Depth to saturated zone	0.86	Restricted permeability	0.22		
RsD2:						
Rittman	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Frost action	1.00
	Water erosion	1.00	Slope	1.00	Slope	1.00
	Rooting depth	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Droughty	1.00	Rooting depth	1.00		
	Depth to saturated zone	0.86	Restricted permeability	0.22		
RtC3:						
Rittman	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Rooting depth	1.00	Depth to saturated zone	1.00	Slope	0.96
	Droughty	1.00	Rooting depth	1.00	Restricted permeability	0.22
	Slope	1.00	Slope	1.00		
	Depth to saturated zone	0.86	Restricted permeability	0.22		
RtD3:						
Rittman	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Frost action	1.00
	Water erosion	1.00	Slope	1.00	Slope	1.00
	Rooting depth	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Droughty	1.00	Rooting depth	1.00		
	Depth to saturated zone	0.86	Restricted permeability	0.22		
SaC:						
Schaffenaker	Very Limited		Very Limited		Very limited	
	Depth to bedrock	1.00	Too sandy	1.00	Cutbanks cave	1.00
	Droughty	1.00	Depth to bedrock	0.64	Depth to saturated zone	1.00
	Content of large stones	0.18	Content of large stones	0.18	Slope	0.84
					Depth to bedrock	0.17

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SaD:						
Schaffenaker--------	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Too sandy	1.00	Cutbanks cave	1.00
	Droughty	1.00	Depth to bedrock	0.64	Depth to saturated zone	1.00
	Content of large stones	0.18	Content of large stones	0.18	Depth to bedrock	0.17
SaE:						
Schaffenaker--------	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Too sandy	1.00	Cutbanks cave	1.00
	Droughty	1.00	Depth to bedrock	0.64	Depth to saturated zone	1.00
	Content of large stones	0.18	Content of large stones	0.18	Depth to bedrock	0.17
SbE:						
Schaffenaker--------	Very Limited		Very Limited		Very limited	
	Depth to bedrock	1.00	Too sandy	1.00	Cutbanks cave	1.00
	Droughty	1.00	Slope	1.00	Depth to saturated zone	1.00
	Slope	1.00	Restricted permeability	0.94	Slope	1.00
	Restricted permeability	0.94	Depth to bedrock	0.42	Restricted permeability	0.94
					Depth to bedrock	0.11
Se:						
Sebring----------	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.22	Ponding	1.00	Restricted permeability	0.22
			Restricted permeability	0.22		
Sh:						
Shoals----------	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
			Ponding	0.50	Ponding	0.50
Sk:						
Shoals Variant------	Very Limited		Very Limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
	Droughty	1.00	Too sandy	1.00	Flooding	1.00
SmA:						
Sleeth----------	Somewhat Limited		Very Limited		Very limited	
	Depth to saturated zone	0.86	Depth to saturated zone	1.00	Frost action	1.00

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
So:						
Sloan	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
	Restricted permeability	0.22	Ponding	1.00	Flooding	1.00
			Restricted permeability	0.22	Restricted permeability	0.22
TmA:						
Tiro	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		
TmB:						
Tiro	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22	Slope	0.04
TvB:						
Titusville	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Rooting depth	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Depth to saturated zone	0.86	Rooting depth	1.00	Slope	0.04
	Restricted permeability	0.22	Restricted permeability	0.22		
TvC:						
Titusville	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Rooting depth	1.00	Depth to saturated zone	1.00	Slope	0.96
	Slope	1.00	Rooting depth	1.00	Restricted permeability	0.22
	Depth to saturated zone	0.86	Slope	1.00		
	Restricted permeability	0.22	Restricted permeability	0.22		
Uc:						
Udorthents	Not Rated		Not Rated		Not Rated	
Ud:						
Udorthents	Not Rated		Not Rated		Not Rated	
Ur:						
Urban Land	Not Rated		Not Rated		Not Rated	

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WaA:						
Wadsworth	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Droughty	1.00	Restricted permeability	0.22		
	Restricted permeability	0.22				
WaB:						
Wadsworth	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Droughty	1.00	Restricted permeability	0.22	Slope	0.04
	Restricted permeability	0.22				
Wc:						
Wallkill	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
			Ponding	1.00	Flooding	1.00
WeD:						
Westmoreland	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Content of large stones	0.19	Content of large stones	0.19		
WhA:						
Wheeling	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
WhB:						
Wheeling	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
					Slope	0.04
WhC:						
Wheeling	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
	Slope	1.00	Slope	1.00	Slope	0.96
WmD:						
Mentor	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
Wheeling	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WsB:						
Wooster	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Slope	0.04
WsB2:						
Wooster	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Slope	0.04
WsC:						
Wooster	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Slope	0.96
	Slope	1.00	Slope	1.00		
WsC2:						
Wooster	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Slope	0.96
	Slope	1.00	Slope	1.00		
WsD:						
Wooster	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00		
WsD2:						
Wooster	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00		
WsD3:						
Wooster	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00		
WsE:						
Wooster	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00		

TABLE 27.--WATER MANAGEMENT PART 2--Continued

Map symbol and soil name	Constructing Grassed Waterways		Constructing Terraces and Diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WsE2:						
Wooster	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		
	Depth to saturated zone	0.02				
WsF:						
Wooster	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00		
WtB:						
Wooster	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Slope	0.04
Chili	Not Limited		Not Limited		Very limited	
					Depth to saturated zone	1.00
					Slope	0.04
WtC:						
Wooster	Very Limited		Very Limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00	Slope	0.96
	Slope	1.00	Slope	1.00		
Chili	Very Limited		Very Limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to saturated zone	1.00
					Slope	0.96
WvE3:						
Wooster	Very Limited		Very Limited		Very limited	
	Slope	1.00	Water erosion	1.00	Slope	1.00
	Water erosion	1.00	Slope	1.00	Depth to saturated zone	1.00
	Rooting depth	1.00	Rooting depth	1.00		

TABLE 28.--ENGINEERING INDEX PROPERTIES

(Absence of an entry indicates that the data were not estimated. See text on page 247 for additional information.)

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	
AcD2:												
Alexandria------	0-5	Silty clay loam	CL, ML	A-6, A-7	0	0-2	95-100	90-100	85-100	80-95	35-45	10-20
	5-27	Silty clay loam, clay loam, silty clay	CL	A-6, A-7	0	0-2	90-100	75-100	70-100	55-90	35-45	15-25
	27-60	Clay loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0-5	80-100	75-100	70-95	55-85	25-40	4-15
AdB:												
Alexandria------	0-5	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-95	70-85	25-40	4-15
	5-34	Silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	70-85	35-45	15-25
	34-60	Clay loam	CL, CL-ML	A-6, A-7	0	3-5	95-100	90-100	85-95	70-80	25-40	4-15
AdC:												
Alexandria------	0-5	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-95	70-85	25-40	4-15
	5-34	Silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	70-85	35-45	15-25
	34-60	Clay loam	CL, CL-ML	A-6, A-7	0	3-5	95-100	90-100	85-95	70-80	25-40	4-15
AdC2:												
Alexandria------	0-5	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-95	70-85	25-40	4-15
	5-34	Silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	70-85	35-45	15-25
	34-60	Clay loam	CL, CL-ML	A-6, A-7	0	3-5	95-100	90-100	85-95	70-80	25-40	4-15
AdD:												
Alexandria------	0-5	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-95	70-85	25-40	4-15
	5-34	Silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	70-85	35-45	15-25
	34-60	Clay loam	CL, CL-ML	A-6, A-7	0	3-5	95-100	90-100	85-95	70-80	25-40	4-15
AdD2:												
Alexandria------	0-5	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-95	70-85	25-40	4-15
	5-34	Silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	70-85	35-45	15-25
	34-60	Clay loam	CL, CL-ML	A-6, A-7	0	3-5	95-100	90-100	85-95	70-80	25-40	4-15
AdE:												
Alexandria------	0-5	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-95	70-85	25-40	4-15
	5-34	Silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	70-85	35-45	15-25
	34-60	Clay loam	CL, CL-ML	A-6, A-7	0	3-5	95-100	90-100	85-95	70-80	25-40	4-15
AdE2:												
Alexandria------	0-5	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-95	70-85	25-40	4-15
	5-34	Silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	70-85	35-45	15-25
	34-60	Clay loam	CL, CL-ML	A-6, A-7	0	3-5	95-100	90-100	85-95	70-80	25-40	4-15
AdF:												
Alexandria------	0-5	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-95	70-85	25-40	4-15
	5-34	Silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	70-85	35-45	15-25
	34-60	Clay loam	CL, CL-ML	A-6, A-7	0	3-5	95-100	90-100	85-95	70-80	25-40	4-15
AeD3:												
Alexandria------	0-5	Silty clay loam	CL-ML	A-4	0	0	95-100	90-100	85-95	70-85	35-45	10-20
	5-34	Silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	70-85	35-45	15-25
	34-60	Clay loam	CL, CL-ML	A-6, A-7	0	3-5	95-100	90-100	85-95	70-80	25-40	4-15
Ag:												
Algiers---------	0-19	Silt loam	CL-ML	A-4	0	0-5	95-100	90-100	85-95	80-90	30-40	4-10
	19-30	Silty clay loam	CL	A-7	0	0-5	95-100	90-100	85-100	85-95	30-45	7-19
	30-47	Silty clay loam	CL	A-7	0	0-5	95-100	90-100	85-95	85-95	30-45	7-19
	47-60	Stratified loam to silt loam	CL-ML	A-4, A-6	0	0-5	95-100	80-95	75-90	70-85	20-40	NP-10
BeB:												
Belmore---------	0-9	Loam	CL-ML, SM	A-4	0	0-2	95-100	90-100	70-80	45-60	20-32	3-10
	9-20	Gravelly loam	GM, SM	A-2, A-4	0	2-5	70-85	65-80	55-75	25-45	25-40	7-15
	20-44	Gravelly clay loam	SM, SC	A-4, A-2	0	2-6	75-90	65-80	50-65	30-50	15-30	NP-10
	44-60	Sandy loam	SM	A-2, A-1	0	2-8	70-80	65-75	35-50	10-25	15-20	NP-5
BeC:												
Belmore---------	0-9	Loam	CL-ML, SM	A-4	0	0-2	95-100	90-100	70-80	45-60	20-32	3-10
	9-20	Gravelly loam	GM, SM	A-2, A-4	0	2-5	70-85	65-80	55-75	25-45	25-40	7-15
	20-44	Gravelly clay loam	SM, SC	A-4, A-2	0	2-6	75-90	65-80	50-65	30-50	15-30	NP-10
	44-60	Sandy loam	SM	A-2, A-1	0	2-8	70-80	65-75	35-50	10-25	15-20	NP-5
BeD:												
Belmore---------	0-9	Loam	CL-ML, SM	A-4	0	0-2	95-100	90-100	70-80	45-60	20-32	3-10
	9-20	Gravelly loam	GM, SM	A-2, A-4	0	2-5	70-85	65-80	55-75	25-45	25-40	7-15
	20-44	Gravelly clay loam	SM, SC	A-4, A-2	0	2-6	75-90	65-80	50-65	30-50	15-30	NP-10
	44-60	Sandy loam	SM	A-2, A-1	0	2-8	70-80	65-75	35-50	10-25	15-20	NP-5

TABLE 28.--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	
BnA:												
Bennington------	0-9	Silt loam	CL-ML, ML	A-4	0	0	95-100	90-100	80-95	70-85	22-38	3-14
	9-36	Silty clay loam	CL, CL-ML	A-6, A-7	0	0-1	95-100	90-100	85-100	80-90	30-52	12-30
	36-60	Silty clay loam	CL, CL-ML	A-6	0	0-5	95-100	90-100	80-95	70-90	25-40	6-18
BnB:												
Bennington------	0-9	Silt loam	CL-ML, ML	A-4	0	0	95-100	90-100	80-95	70-85	22-38	3-14
	9-36	Silty clay loam	CL, CL-ML	A-6, A-7	0	0-1	95-100	90-100	85-100	80-90	30-52	12-30
	36-60	Silty clay loam	CL, CL-ML	A-6	0	0-5	95-100	90-100	80-95	70-90	25-40	6-18
BnB2:												
Bennington------	0-9	Silt loam	CL-ML, ML	A-4	0	0	95-100	90-100	80-95	70-85	22-38	3-14
	9-36	Silty clay loam	CL, CL-ML	A-6, A-7	0	0-1	95-100	90-100	85-100	80-90	30-52	12-30
	36-60	Silty clay loam	CL, CL-ML	A-6	0	0-5	95-100	90-100	80-95	70-90	25-40	6-18
BpB:												
Bennington------	0-9	Silt loam	CL-ML, ML	A-4	0	0	95-100	90-100	80-95	70-85	22-38	3-14
	9-36	Silty clay loam	CL, CL-ML	A-6, A-7	0	0-1	95-100	90-100	85-100	80-90	30-52	12-30
	36-60	Silty clay loam	CL, CL-ML	A-6	0	0-5	95-100	90-100	80-95	70-90	25-40	6-18
Fitchville------	0-13	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	95-100	85-100	24-40	4-16
	13-42	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	95-100	85-100	28-50	5-23
	42-60	Silt loam	CL, CL-ML	A-4	0	0-1	95-100	90-100	85-100	65-85	20-40	3-18
BrB:												
Berks----------	0-11	Channery silt loam	SM	A-4, A-2	0	10-30	55-65	50-60	45-55	30-40	25-36	5-10
	11-28	Very channery silt loam	GM	A-2	0	50-70	30-45	30-40	25-35	15-30	25-36	5-10
	28-38	Weathered bedrock			---	---	---	---	---	---	---	---
	38-40	Unweathered bedrock			---	---	---	---	---	---	---	---
BrC:												
Berks----------	0-11	Channery silt loam	SM	A-2, A-4	0	10-30	55-65	50-60	45-55	30-40	25-36	5-10
	11-28	Very channery silt loam	GM	A-2	0	50-70	30-45	30-40	25-35	15-30	25-36	5-10
	28-38	Weathered bedrock			---	---	---	---	---	---	---	---
	38-40	Unweathered bedrock			---	---	---	---	---	---	---	---
BrD:												
Berks----------	0-11	Channery silt loam	SM	A-2, A-4	0	10-30	55-65	50-60	45-55	30-40	25-36	5-10
	11-28	Very channery silt loam	GM	A-2	0	50-70	30-45	30-40	25-35	15-30	25-36	5-10
	28-38	Weathered bedrock			---	---	---	---	---	---	---	---
	38-40	Unweathered bedrock			---	---	---	---	---	---	---	---
BsF:												
Berks----------	0-11	Channery silt loam	SM	A-2, A-4	0	10-30	55-65	50-60	45-55	30-40	25-36	5-10
	11-28	Very channery silt loam	GM	A-2	0	50-70	30-45	30-40	25-35	15-30	25-36	5-10
	28-38	Weathered bedrock			---	---	---	---	---	---	---	---
	38-40	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock Outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
BtA:												
Bogart----------	0-10	Loam	CL-ML, ML	A-4	0	0	95-100	90-100	75-90	50-60	20-35	NP-10
	10-34	Gravelly loam	SM	A-2, A-4	0	0-5	90-100	70-80	60-75	30-50	20-35	3-14
	34-60	Gravelly sandy loam	SM	A-2	0	0-5	75-90	50-70	35-55	15-35	15-30	NP-8
BtB:												
Bogart----------	0-10	Loam	CL-ML, ML	A-4	0	0	95-100	90-100	75-90	50-60	20-35	NP-10
	10-34	Gravelly loam	SM	A-2, A-4	0	0-5	90-100	70-80	60-75	30-50	20-35	3-14
	34-60	Gravelly sandy loam	SM	A-2	0	0-5	75-90	50-70	35-55	15-35	15-30	NP-8
BvA:												
Bogart----------	0-10	Silt loam	CL-ML, ML	A-4	0	0	95-100	90-100	75-90	50-60	20-35	NP-10
	10-34	Gravelly loam	SM	A-2, A-4	0	0-5	90-100	70-80	60-75	30-50	20-35	3-14
	34-60	Gravelly sandy loam	SM	A-2	0	0-5	75-90	50-70	35-55	15-35	15-30	NP-8
BvB:												
Bogart----------	0-10	Silt loam	CL-ML, ML	A-4	0	0	95-100	90-100	75-90	50-60	20-35	NP-10
	10-34	Gravelly loam	SM	A-2, A-4	0	0-5	90-100	70-80	60-75	30-50	20-35	3-14
	34-60	Gravelly sandy loam	SM	A-2	0	0-5	75-90	50-70	35-55	15-35	15-30	NP-8

TABLE 28.--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	
BwC:												
Brownsville-----	0-8	Channery silt loam	CL-ML, GC-GM, GM, ML	A-4	0	0-15	50-80	45-70	40-70	35-60	25-35	5-10
	8-24	Extremely channery silt loam, channery loam, very channery silt loam	CL-ML, GC-GM, GM, ML	A-1, A-2, A-4	0	5-40	35-80	30-70	25-70	20-60	25-35	5-10
	24-48	Channery silt loam, very channery loam, extremely channery silt loam	GM, GP-GM, SM, SP-SM, GW-GM	A-1, A-2, A-4	0	15-60	25-65	20-55	15-50	10-45	20-35	2-10
	48-52	Weathered bedrock			---	---	---	---	---	---	---	---
BwD:												
Brownsville-----	0-8	Channery silt loam	CL-ML, GC-GM, GM, ML	A-4	0	0-15	50-80	45-70	40-70	35-60	25-35	5-10
	8-24	Extremely channery silt loam, channery loam, very channery silt loam	CL-ML, GC-GM, GM, ML	A-1, A-2, A-4	0	5-40	35-80	30-70	25-70	20-60	25-35	5-10
	24-48	Channery silt loam, very channery loam, extremely channery silt loam	GM, GP-GM, SM, SP-SM, GW-GM	A-1, A-2, A-4	0	15-60	25-65	20-55	15-50	10-45	20-35	2-10
	48-52	Weathered bedrock			---	---	---	---	---	---	---	---
BxE:												
Brownsville-----	0-2	Channery silt loam	CL-ML, GC-GM, GM, ML	A-4	0	0-15	50-80	45-70	40-70	35-60	25-35	5-10
	2-34	Extremely channery silt loam, channery loam, very channery silt loam	CL-ML, GC-GM, GM, ML	A-1, A-2, A-4	0	5-40	35-80	30-70	25-70	20-60	25-35	5-10
	34-48	Channery silt loam, very channery loam, extremely channery silt loam	GM, GP-GM, SM, SP-SM, GW-GM	A-1, A-2, A-4	0	15-60	25-65	20-55	15-50	10-45	20-35	2-10
	48-50	Weathered bedrock			---	---	---	---	---	---	---	---
Westmoreland----	0-3	Silt loam	CL, ML	A-4, A-6	0	0	85-100	80-100	75-95	60-95	20-35	3-15
	3-34	Loam, channery silt loam, silt loam	CL, GC, GM, ML	A-4, A-6, A-7	0	0-15	65-100	55-95	50-90	45-85	22-45	2-20
	34-48	Extremely channery silt loam, very channery silt loam, channery silty clay loam	SC, SM, GC, GM	A-1, A-2, A-4, A-6	0	0-20	25-95	20-95	15-90	15-80	20-40	2-20
	48-50	Unweathered bedrock			---	---	---	---	---	---	---	---
CdB:												
Canfield--------	0-10	Silt loam	ML	A-4	0	0	90-100	85-100	85-100	70-80	25-35	2-10
	10-22	Loam	ML	A-4	0	0	90-100	85-100	85-100	70-90	20-40	3-16
	22-45	Loam	CL-ML	A-4	0	0-5	85-95	75-90	70-85	55-70	20-35	3-14
	45-60	Loam	CL-ML, ML	A-4	0	0-5	85-95	75-90	70-85	55-65	20-35	2-12
CdB2:												
Canfield--------	0-10	Silt loam	ML	A-4	0	0	90-100	85-100	85-100	70-80	25-35	2-10
	10-22	Loam	ML	A-4	0	0	90-100	85-100	85-100	70-90	20-40	3-16
	22-45	Loam	CL-ML	A-4	0	0-5	85-95	75-90	70-85	55-70	20-35	3-14
	45-60	Loam	CL-ML, ML	A-4	0	0-5	85-95	75-90	70-85	55-65	20-35	2-12
CdC:												
Canfield--------	0-10	Silt loam	ML	A-4	0	0	90-100	85-100	85-100	70-80	25-35	2-10
	10-22	Loam	ML	A-4	0	0	90-100	85-100	85-100	70-90	20-40	3-16
	22-45	Loam	CL-ML	A-4	0	0-5	85-95	75-90	70-85	55-70	20-35	3-14
	45-60	Loam	CL-ML, ML	A-4	0	0-5	85-95	75-90	70-85	55-65	20-35	2-12

TABLE 28.--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	
CdC2:												
Canfield--------	0-10	Silt loam	ML	A-4	0	0	90-100	85-100	85-100	70-80	25-35	2-10
	10-22	Loam	ML	A-4	0	0	90-100	85-100	85-100	70-90	20-40	3-16
	22-45	Loam	CL-ML	A-4	0	0-5	85-95	75-90	70-85	55-70	20-35	3-14
	45-60	Loam	CL-ML, ML	A-4	0	0-5	85-95	75-90	70-85	55-65	20-35	2-12
CgB:												
Cardington------	0-15	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-100	75-90	25-40	4-15
	15-34	Silty clay loam	CL	A-7	0	0	95-100	90-100	80-95	75-90	30-50	10-30
	34-60	Clay loam	CL	A-6	0	0-3	85-100	80-95	75-90	70-85	22-40	3-18
CgB2:												
Cardington------	0-15	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-100	75-90	25-40	4-15
	15-34	Silty clay loam	CL	A-7	0	0	95-100	90-100	80-95	75-90	30-50	10-30
	34-60	Clay loam	CL	A-6	0	0-3	85-100	80-95	75-90	70-85	22-40	3-18
CgC:												
Cardington------	0-15	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-100	75-90	25-40	4-15
	15-34	Silty clay loam	CL	A-7	0	0	95-100	90-100	80-95	75-90	30-50	10-30
	34-60	Clay loam	CL	A-6	0	0-3	85-100	80-95	75-90	70-85	22-40	3-18
CgC2:												
Cardington------	0-15	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-100	75-90	25-40	4-15
	15-34	Silty clay loam	CL	A-7	0	0	95-100	90-100	80-95	75-90	30-50	10-30
	34-60	Clay loam	CL	A-6	0	0-3	85-100	80-95	75-90	70-85	22-40	3-18
ChC3:												
Cardington------	0-15	Silty clay loam	CL-ML	A-4	0	0	95-100	90-100	85-100	75-90	35-45	10-20
	15-34	Silty clay loam	CL	A-7	0	0	95-100	90-100	80-95	75-90	30-50	10-30
	34-60	Clay loam	CL	A-6	0	0-3	85-100	80-95	75-90	70-85	22-40	3-18
Ck:												
Carlisle--------	0-60	Muck	PT	A-8	0	0	0	0	0	0	---	---
CmB:												
Chili----------	0-10	Silt loam	CL-ML, ML	A-4	0	0	85-100	75-100	65-85	55-75	25-35	4-10
	10-52	Silt loam, gravelly clay loam, gravelly loam	CL, GM, ML, SM	A-1-b, A-2, A-4, A-6	0	0	65-100	50-80	35-70	20-65	15-30	NP-12
	52-60	Stratified very gravelly sand to gravelly loamy sand	GM, GW, SM, SP	A-1	0	5-10	30-70	25-65	10-45	2-20	---	NP
CnB:												
Chili----------	0-10	Loam	ML, SM	A-4	0	0-2	95-100	80-100	70-85	45-70	25-35	4-10
	10-28	Gravelly loam, gravelly sandy clay loam	ML, SC	A-4	0	2-5	70-90	60-80	55-75	40-55	15-30	NP-12
	28-44	Gravelly loam	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	15-30	NP-8
	44-60	Stratified loamy sand to gravel	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	---	NP
CnC:												
Chili----------	0-10	Loam	ML, SM	A-4	0	0-2	95-100	80-100	70-85	45-70	25-35	4-10
	10-28	Gravelly loam, gravelly sandy clay loam	ML, SC	A-4	0	2-5	70-90	60-80	55-75	40-55	15-30	NP-12
	28-44	Gravelly loam	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	15-30	NP-8
	44-60	Stratified loamy sand to gravel	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	---	NP
CoD:												
Chili----------	0-10	Gravelly loam	ML, SM	A-4	0	0-2	95-100	80-100	70-85	45-70	15-30	NP-7
	10-28	Gravelly loam, gravelly sandy clay loam	ML, SC	A-4	0	2-5	70-90	60-80	55-75	40-55	15-30	NP-12
	28-44	Gravelly loam	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	15-30	NP-8
	44-60	Stratified loamy sand to gravel	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	---	NP
Conotton--------	0-16	Gravelly loam	SM	A-2	0	5-10	70-90	55-80	40-50	25-40	15-30	NP-6
	16-44	Very gravelly sandy loam	GM, SM	A-2, A-1	0	10-15	35-55	30-50	20-35	15-25	15-25	NP-6
	44-60	Gravel	GM, GW	A-1	0	5-10	25-40	20-35	10-25	5-15	---	NP

TABLE 28.--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	
CoD3:												
Chili----------	0-10	Gravelly loam	ML, SM	A-4	0	0-2	95-100	80-100	70-85	45-70	15-30	NP-7
	10-28	Gravelly loam, gravelly sandy clay loam	ML, SC	A-4	0	2-5	70-90	60-80	55-75	40-55	15-30	NP-12
	28-44	Gravelly loam	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	15-30	NP-8
	44-60	Stratified loamy sand to gravel	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	---	NP
Conotton--------	0-16	Gravelly loam	SM	A-2	0	5-10	70-90	55-80	40-50	25-40	15-30	NP-6
	16-44	Very gravelly sandy loam	GM, SM	A-2, A-1	0	10-15	35-55	30-50	20-35	15-25	15-25	NP-6
	44-60	Gravel	GM, GW	A-1	0	5-10	25-40	20-35	10-25	5-15	---	NP
CoE:												
Chili----------	0-10	Gravelly loam	ML, SM	A-4	0	0-2	95-100	80-100	70-85	45-70	15-30	NP-7
	10-28	Gravelly loam, gravelly sandy clay loam	ML, SC	A-4	0	2-5	70-90	60-80	55-75	40-55	15-30	NP-12
	28-44	Gravelly loam	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	15-30	NP-8
	44-60	Stratified loamy sand to gravel	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	---	NP
Conotton--------	0-16	Gravelly loam	SM	A-2	0	5-10	70-90	55-80	40-50	25-40	15-30	NP-6
	16-44	Very gravelly sandy loam	GM, SM	A-2, A-1	0	10-15	35-55	30-50	20-35	15-25	15-25	NP-6
	44-60	Gravel	GM, GW	A-1	0	5-10	25-40	20-35	10-25	5-15	---	NP
CoF:												
Chili----------	0-10	Gravelly loam	ML, SM	A-4	0	0-2	95-100	80-100	70-85	45-70	15-30	NP-7
	10-28	Gravelly loam, gravelly sandy clay loam	ML, SC	A-4	0	2-5	70-90	60-80	55-75	40-55	15-30	NP-12
	28-44	Gravelly loam	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	15-30	NP-8
	44-60	Stratified loamy sand to gravel	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	---	NP
Conotton--------	0-16	Gravelly loam	SM	A-2	0	5-10	70-90	55-80	40-50	25-40	15-30	NP-6
	16-44	Very gravelly sandy loam	GM, SM	A-2, A-1	0	10-15	35-55	30-50	20-35	15-25	15-25	NP-6
	44-60	Gravel	GM, GW	A-1	0	5-10	25-40	20-35	10-25	5-15	---	NP
Cp:												
Condit----------	0-6	Silty clay loam	CL	A-6, A-7	0	0-2	95-100	95-100	95-100	85-95	25-45	11-22
	6-44	Silty clay loam, silty clay, clay loam	CH, CL	A-6, A-7	0	0-2	95-100	85-100	80-100	70-90	35-55	12-28
	44-60	Clay loam, silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0-2	90-100	80-100	70-95	65-85	25-40	6-18
Cr:												
Condit----------	0-9	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-100	75-90	22-40	3-16
	9-50	Silty clay loam	CL	A-7	0	0	95-100	90-100	80-95	75-90	35-55	12-28
	50-60	Clay loam	CL	A-6	0	0-5	95-100	90-100	75-90	70-85	25-40	6-18
Cs:												
Condit----------	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-2	95-100	95-100	90-100	80-90	25-40	3-14
	9-52	Silty clay loam, silty clay, clay loam	CH, CL	A-6, A-7	0	0-2	95-100	95-100	90-100	80-90	35-55	12-28
	52-70	Clay loam, silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0-2	90-100	90-100	80-95	70-85	25-40	6-20
Bennington------	0-8	Silt loam	CL, ML	A-4, A-6	0	0-2	95-100	90-100	85-100	65-90	22-38	3-14
	8-42	Silty clay loam, silty clay, clay loam	CH, CL	A-6, A-7	0	0-2	85-100	80-100	75-100	70-95	30-52	12-30
	42-64	Clay loam, silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0-2	80-100	75-100	70-100	60-90	25-40	6-18
CtC:												
Conotton--------	0-16	Gravelly loam	SM	A-2	0	5-10	70-90	55-80	40-50	25-40	15-30	NP-6
	16-44	Very gravelly sandy loam	GM, SM	A-1, A-2	0	10-15	35-55	30-50	20-35	15-25	15-25	NP-6
	44-60	Gravel	GM, GW	A-1	0	5-10	25-40	20-35	10-25	5-15	---	NP

TABLE 28.--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	
CvC:												
Coshocton-------	0-9	Loam	CL-ML, ML	A-4, A-6	0	0-5	85-100	80-100	70-95	60-90	25-40	4-12
	9-37	Sandy clay loam, sandy loam, clay loam	CH, CL, SC	A-6, A-7	0	0-10	70-95	70-90	60-80	40-70	30-50	15-30
	37-45	Channery silty clay loam, channery silty clay, channery loam	GC, SC, CH, CL	A-2, A-6, A-7	0	5-20	30-80	25-80	25-75	20-70	30-55	16-35
	45-60	Weathered bedrock			---	---	---	---	---	---	---	---
DmB:												
Digby----------	0-14	Loam	ML	A-4	0	0-2	95-100	85-95	75-90	55-70	15-36	NP-10
	14-32	Loam	ML	A-4	0	0-5	95-100	85-95	75-90	55-70	25-40	4-15
	32-60	Sandy loam	SC-SM, SM	A-2, A-4	0	1-5	90-100	85-95	65-85	25-45	15-20	NP-4
FbA:												
Fitchville------	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-95	24-40	4-16
	6-46	Silt loam, silty clay loam	CL, ML	A-4, A-6, A-7	0	0	100	100	90-100	80-100	28-50	5-23
	46-60	Silt loam, loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	90-100	80-100	60-100	20-40	3-18
FcA:												
Fitchville------	0-13	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	95-100	85-100	24-40	4-16
	13-42	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	95-100	85-100	28-50	5-23
	42-60	Silt loam	CL, CL-ML	A-4	0	0-1	95-100	90-100	85-100	65-85	20-40	3-18
FcB:												
Fitchville------	0-13	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	95-100	85-100	24-40	4-16
	13-42	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	95-100	85-100	28-50	5-23
	42-60	Silt loam	CL, CL-ML	A-4	0	0-1	95-100	90-100	85-100	65-85	20-40	3-18
FdA:												
Fitchville------	0-13	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	95-100	85-100	24-40	4-16
	13-42	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	95-100	85-100	28-50	5-23
	42-60	Silt loam	CL, CL-ML	A-4	0	0-1	95-100	90-100	85-100	65-85	20-40	3-18
Bennington------	0-9	Silt loam	CL-ML, ML	A-4	0	0	95-100	90-100	80-95	70-85	22-38	3-14
	9-36	Silty clay loam	CL, CL-ML	A-6, A-7	0	0-1	95-100	90-100	85-100	80-90	30-52	12-30
	36-60	Silty clay loam	CL, CL-ML	A-6	0	0-5	95-100	90-100	80-95	75-90	25-40	6-18
FgA:												
Fitchville Variant--------	0-13	Silt loam	CL-ML, ML	A-4	0	0	95-100	90-100	85-100	80-95	18-35	2-12
	13-30	Silty clay loam	CL	A-6	0	0	95-100	90-100	85-100	80-90	20-45	5-20
	30-60	Stratified loam to sandy loam to gravelly loam	SC-SM	A-2, A-4	0	5-10	70-85	55-75	45-65	25-45	18-35	NP-12
FgB:												
Fitchville Variant--------	0-13	Silt loam	CL-ML, ML	A-4	0	0	95-100	90-100	85-100	80-95	18-35	2-12
	13-30	Silty clay loam	CL	A-6	0	0	95-100	90-100	85-100	80-90	20-45	5-20
	30-60	Stratified loam to sandy loam to gravelly loam	SC-SM	A-2, A-4	0	5-10	70-85	55-75	45-65	25-45	18-35	NP-12
Fr:												
Frenchtown------	0-12	Silt loam	ML	A-4	0	0	95-100	90-100	80-95	70-85	22-35	3-12
	12-22	Silty clay loam	CL	A-6, A-7	0	2-5	95-100	90-100	80-95	80-95	25-40	4-15
	22-40	Silt loam	CL-ML, CL	A-4	0	2-5	95-100	90-100	75-90	70-85	20-35	4-12
	40-60	Loam	CL-ML, CL	A-4	0	2-5	90-100	85-95	75-90	65-80	20-35	4-14
GdB:												
Gilpin----------	0-9	Silt loam	CL, CL-ML, ML, SC	A-4, A-6	0	0-5	80-95	75-90	70-85	65-80	20-40	4-15
	9-33	Channery loam, silt loam, silty clay loam	CL, CL-ML, GC, SC, ML	A-2, A-4, A-6	0	0-30	50-95	45-90	35-85	30-80	20-40	4-15
	33-37	Channery loam, very channery silt loam, very channery silty clay loam	GC, GC-GM	A-1, A-2, A-4, A-6	0	0-35	25-55	20-50	15-45	15-40	20-40	4-15
	37-39	Unweathered bedrock			---	---	---	---	---	---	---	---

TABLE 28.--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	
GdC:												
Gilpin----------	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	80-95	75-90	70-85	65-80	20-40	4-15
	9-33	Channery loam, silt loam, silty clay loam	CL, CL-ML, ML, SC	A-2, A-4, A-6	0	0-30	50-95	45-90	35-85	30-80	20-40	4-15
	33-37	Channery loam, very channery silt loam, very channery silty clay loam	GC, GC-GM	A-1, A-2, A-4, A-6	0	0-35	25-55	20-50	15-45	15-40	20-40	4-15
	37-39	Unweathered bedrock			---	---	---	---	---	---	---	---
GfA:												
Glenford--------	0-16	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	85-100	25-40	4-14
	16-26	Silty clay loam	CL-ML	A-6, A-7	0	0	100	95-100	90-100	85-95	25-45	5-18
	26-40	Silty clay loam	CL-ML	A-6, A-7	0	0	100	95-100	90-100	85-95	20-40	3-18
	40-60	Silt loam	CL-ML, ML	A-6	0	0	100	90-100	85-100	70-85	20-40	3-15
GfB:												
Glenford--------	0-16	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	85-100	25-40	4-14
	16-26	Silty clay loam	CL-ML	A-6, A-7	0	0	100	95-100	90-100	85-95	25-45	5-18
	26-40	Silty clay loam	CL-ML	A-6, A-7	0	0	100	95-100	90-100	85-95	20-40	3-18
	40-60	Silt loam	CL-ML, ML	A-6	0	0	100	90-100	85-100	70-85	20-40	3-15
GfC:												
Glenford--------	0-16	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	85-100	25-40	4-14
	16-26	Silty clay loam	CL-ML	A-6, A-7	0	0	100	95-100	90-100	85-95	25-45	5-18
	26-40	Silty clay loam	CL-ML	A-6, A-7	0	0	100	95-100	90-100	85-95	20-40	3-18
	40-60	Silt loam	CL-ML, ML	A-6	0	0	100	90-100	85-100	70-85	20-40	3-15
GrB:												
Gresham---------	0-16	Silt loam	CL-ML	A-4	0	0	95-100	85-95	80-95	65-80	25-35	4-10
	16-23	Silt loam	CL	A-6	0	0	95-100	85-95	80-90	65-80	30-45	8-20
	23-52	Silt loam	CL	A-6	0	0-3	95-100	85-95	80-90	65-80	20-45	6-22
	52-60	Loam	CL-ML	A-4, A-6	0	3-5	90-100	80-95	75-85	60-75	20-40	6-18
HaB:												
Haney----------	0-10	Loam	CL-ML, ML	A-4	0	0	95-100	80-95	70-85	65-80	20-36	NP-10
	10-16	Loam	CL-ML, ML	A-4	0	0	95-100	80-95	70-85	65-80	25-40	3-16
	16-40	Gravelly clay loam, loam, gravelly sandy clay loam	ML	A-4	0	2-5	95-100	80-95	60-75	55-65	25-40	4-15
	40-60	Gravelly sandy loam, very gravelly loam, loamy sand	SM	A-2	0	5-10	75-95	60-80	25-45	15-30	15-30	NP-4
HfB:												
Hanover---------	0-10	Silt loam	CL-ML	A-4	0	0-2	95-100	85-95	75-90	65-80	25-35	NP-10
	10-22	Loam	CL	A-4, A-6	0	0-2	95-100	85-95	75-90	65-80	30-40	5-15
	22-34	Loam	CL	A-4, A-6	0	2-4	95-100	85-95	75-90	65-80	20-40	5-15
	34-60	Loam	ML	A-4	0	3-5	95-100	80-95	75-90	60-75	20-35	5-15
HfC:												
Hanover---------	0-10	Silt loam	CL-ML	A-4	0	0-2	95-100	85-95	75-90	65-80	25-35	NP-10
	10-22	Loam	CL	A-6, A-4	0	0-2	95-100	85-95	75-90	65-80	30-40	5-15
	22-34	Loam	CL	A-4, A-6	0	2-4	95-100	85-95	75-90	65-80	20-40	5-15
	34-60	Loam	ML	A-4	0	3-5	95-100	80-95	75-90	60-75	20-35	5-15
HfC2:												
Hanover---------	0-10	Silt loam	CL-ML	A-4	0	0-2	95-100	85-95	75-90	65-80	25-35	NP-10
	10-22	Loam	CL	A-4, A-6	0	0-2	95-100	85-95	75-90	65-80	30-40	5-15
	22-34	Loam	CL	A-4, A-6	0	2-4	95-100	85-95	75-90	65-80	20-40	5-15
	34-60	Loam	ML	A-4	0	3-5	95-100	80-95	75-90	60-75	20-35	5-15
HfC3:												
Hanover---------	0-10	Silt loam	CL-ML	A-4	0	0-2	95-100	85-95	75-90	65-80	25-35	NP-10
	10-22	Loam	CL	A-4, A-6	0	0-2	95-100	85-95	75-90	65-80	30-40	5-15
	22-34	Loam	CL	A-4, A-6	0	2-4	95-100	85-95	75-90	65-80	20-40	5-15
	34-60	Loam	ML	A-4	0	3-5	95-100	80-95	75-90	60-75	20-35	5-15
HfD:												
Hanover---------	0-10	Silt loam	CL-ML	A-4	0	0-2	95-100	85-95	75-90	65-80	25-35	NP-10
	10-22	Loam	CL	A-4, A-6	0	0-2	95-100	85-95	75-90	65-80	30-40	5-15
	22-34	Loam	CL	A-4, A-6	0	2-4	95-100	85-95	75-90	65-80	20-40	5-15
	34-60	Loam	ML	A-4	0	3-5	95-100	80-95	75-90	60-75	20-35	5-15
HfD2:												
Hanover---------	0-10	Silt loam	CL-ML	A-4	0	0-2	95-100	85-95	75-90	65-80	25-35	NP-10
	10-22	Loam	CL	A-4, A-6	0	0-2	95-100	85-95	75-90	65-80	30-40	5-15
	22-34	Loam	CL	A-4, A-6	0	2-4	95-100	85-95	75-90	65-80	20-40	5-15
	34-60	Loam	ML	A-4	0	3-5	95-100	80-95	75-90	60-75	20-35	5-15

TABLE 28.--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	
HfE:												
Hanover---------	0-10	Silt loam	CL-ML	A-4	0	0-2	95-100	85-95	75-90	65-80	25-35	NP-10
	10-22	Loam	CL	A-4, A-6	0	0-2	95-100	85-95	75-90	65-80	30-40	5-15
	22-34	Loam	CL	A-4, A-6	0	2-4	95-100	85-95	75-90	65-80	20-40	5-15
	34-60	Loam	ML	A-4	0	3-5	95-100	80-95	75-90	60-75	20-35	5-15
Ho:												
Holly----------	0-14	Silt loam	CL-ML	A-4	0	0-2	95-100	95-100	85-100	75-90	25-35	3-10
	14-32	Silt loam	CL	A-6	0	0-3	95-100	95-100	85-100	75-90	20-40	NP-14
	32-40	Silt loam	CL	A-4, A-6	0	0-5	90-100	80-95	75-90	60-75	20-40	NP-10
	40-60	Silt loam	CL	A-4, A-6	0	0-5	90-100	80-95	75-90	60-75	20-40	NP-10
HpB:												
Homewood--------	0-10	Silt loam	ML	A-4	0	0	95-100	90-100	85-100	75-100	25-35	NP-10
	10-29	Loam, silt loam, clay loam	CL, ML	A-4, A-6	0	0-2	90-100	85-100	75-100	55-80	30-40	5-15
	29-67	Loam, clay loam, gravelly silt loam	CL, CL-ML, ML, SC-SM	A-4, A-6	0	0-5	70-100	60-95	55-90	45-80	25-40	5-15
	67-80	Gravelly loam, clay loam, silt loam	CL, CL-ML, ML, SC-SM	A-4, A-6	0	0-10	70-100	55-95	50-90	40-80	20-35	5-15
HpC:												
Homewood--------	0-10	Silt loam	ML	A-4	0	0	95-100	90-100	85-100	75-100	25-35	NP-10
	10-29	Loam, silt loam, clay loam	CL, ML	A-4, A-6	0	0-2	90-100	85-100	75-100	55-80	30-40	5-15
	29-67	Loam, clay loam, gravelly silt loam	CL, CL-ML, ML, SC-SM	A-4, A-6	0	0-5	70-100	60-95	55-90	45-80	25-40	5-15
	67-80	Gravelly loam, clay loam, loam	CL, CL-ML, ML, SC-SM	A-4, A-6	0	0-10	70-100	55-95	50-90	40-80	20-35	5-15
HpD2:												
Homewood--------	0-10	Silt loam	ML	A-4	0	0	95-100	90-100	85-100	75-100	25-35	NP-10
	10-29	Loam, silt loam, clay loam	CL, ML	A-4, A-6	0	0-2	90-100	85-100	75-100	55-80	30-40	5-15
	29-67	Loam, clay loam, gravelly silt loam	CL, CL-ML, ML, SC-SM	A-4, A-6	0	0-5	70-100	60-95	55-90	45-80	25-40	5-15
	67-80	Gravelly loam, clay loam, loam	CL, CL-ML, ML, SC-SM	A-4, A-6	0	0-10	70-100	55-95	50-90	40-80	20-35	5-15
HpE2:												
Homewood--------	0-10	Silt loam	ML	A-4	0	0	95-100	90-100	85-100	75-100	25-35	NP-10
	10-29	Loam, silt loam, clay loam	CL, ML	A-4, A-6	0	0-2	90-100	85-100	75-100	55-80	30-40	5-15
	29-67	Loam, clay loam, gravelly silt loam	CL, CL-ML, ML, SC-SM	A-4, A-6	0	0-5	70-100	60-95	55-90	45-80	25-40	5-15
	67-80	Gravelly loam, clay loam, loam	CL, CL-ML, ML, SC-SM	A-4, A-6	0	0-10	70-100	55-95	50-90	40-80	20-35	5-15
JtA:												
Jimtown---------	0-9	Loam	CL-ML, ML	A-4	0	0	95-100	75-95	60-85	50-70	20-30	NP-8
	9-42	Loam, sandy loam, gravelly clay loam	CL, ML, SC, SM	A-2, A-4, A-6	0	0-2	75-90	55-85	45-75	30-60	25-40	4-15
	42-84	Stratified gravelly loam to very gravelly sand	GM, SM	A-1, A-2, A-4	0	0-5	45-85	30-70	20-60	15-40	15-25	NP-4
KbA:												
Kibbie----------	0-9	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	85-100	60-95	15-35	NP-15
	9-44	Silt loam, loam, sandy clay loam	CL, SC	A-4, A-6, A-7	0	0	90-100	85-100	80-100	35-90	25-45	9-25
	44-60	Stratified silt loam to fine sandy loam	CL, ML, SC, SM	A-2, A-4	0	0	100	95-100	70-95	30-80	15-30	NP-10
La:												
Landes----------	0-13	Fine sandy loam	ML, SM	A-4	0	0	100	95-100	90-100	40-60	15-25	NP-10
	13-27	Fine sandy loam	SM	A-4	0	0	100	95-100	90-100	40-50	15-25	NP-10
	27-60	Loamy fine sand	SM	A-2	0	1-5	95-100	90-100	75-95	20-35	15-30	NP-10

TABLE 28.--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	
LfB:												
Latham----------	0-10	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-100	65-80	20-35	5-12
	10-24	Silty clay loam, silty clay	CH, CL	A-7	0	0	95-100	90-100	85-100	80-90	45-65	25-40
	24-32	Silty clay loam	CH, CL	A-7	0	0	95-100	90-100	85-100	80-90	45-65	25-40
	32-42	Weathered bedrock			---	---	---	---	---	---	---	---
LfC:												
Latham----------	0-10	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-100	65-80	20-35	5-12
	10-24	Silty clay loam, silty clay	CH, CL	A-7	0	0	95-100	90-100	85-100	80-90	45-65	25-40
	24-32	Silty clay loam	CH, CL	A-7	0	0	95-100	90-100	85-100	80-90	45-65	25-40
	32-42	Weathered bedrock			---	---	---	---	---	---	---	---
Lg:												
Lenawee---------	0-9	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	90-100	70-95	25-45	11-22
	9-45	Silty clay loam, silty clay	CH, CL	A-6, A-7	0	0	100	95-100	90-100	80-95	25-55	11-30
	45-60	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	95-100	95-100	85-95	25-45	6-22
Lk:												
Linwood---------	0-24	Muck	PT		0	0	0	0	0	0	---	---
	24-40	Silt loam	ML	A-4	0	0	100	95-100	90-100	75-85	25-40	4-15
	40-60	Loam	CL-ML	A-6	0	0-5	100	95-100	90-100	70-80	15-40	NP-20
Lo:												
Lobdell---------	0-20	Silt loam	CL-ML	A-4	0	0	100	85-100	80-95	55-75	20-30	NP-8
	20-42	Silt loam	CL	A-6	0	0	100	95-100	80-95	65-85	20-35	NP-10
	42-60	Stratified sandy loam to loam to silt loam	CL, ML	A-4, A-6	0	0-5	95-100	90-100	70-90	55-70	15-35	NP-10
LrB:												
Lordstown-------	0-12	Silt loam	ML	A-4	0	2-5	90-100	80-95	70-90	65-80	15-30	NP-4
	12-24	Silt loam	ML	A-4	0	8-12	75-90	70-85	60-80	60-75	15-30	NP-4
	24-36	Channery loam	SM	A-2, A-4	0	10-20	60-75	55-70	45-65	30-50	15-30	NP-4
	36-38	Unweathered bedrock			---	---	---	---	---	---	---	---
LrC:												
Lordstown-------	0-12	Silt loam	ML	A-4	0	2-5	90-100	80-95	70-90	65-80	15-30	NP-4
	12-24	Silt loam	ML	A-4	0	8-12	75-90	70-85	60-80	60-75	15-30	NP-4
	24-36	Channery loam	SM	A-2, A-4	0	10-20	60-75	55-70	45-65	30-50	15-30	NP-4
	36-38	Unweathered bedrock			---	---	---	---	---	---	---	---
LrD:												
Lordstown-------	0-12	Silt loam	ML	A-4	0	2-5	90-100	80-95	70-90	65-80	15-30	NP-4
	12-24	Silt loam	ML	A-4	0	8-12	75-90	70-85	60-80	60-75	15-30	NP-4
	24-36	Channery loam	SM	A-2, A-4	0	10-20	60-75	55-70	45-65	30-50	15-30	NP-4
	36-38	Unweathered bedrock			---	---	---	---	---	---	---	---
LrE:												
Lordstown-------	0-4	Silt loam	ML, SM	A-4	0	0-10	80-95	75-95	65-95	45-85	15-30	NP-4
	4-23	Channery silt loam, channery loam	GM, ML, SM	A-4	0	5-10	65-85	50-75	45-70	40-65	15-30	NP-4
	23-27	Very channery loam, channery silt loam, very channery fine sandy loam	GM, ML, SM	A-1, A-2, A-4	0	5-25	40-75	30-70	25-70	15-60	15-30	NP-4
	27-31	Unweathered bedrock			---	---	---	---	---	---	---	---
LrF:												
Lordstown-------	0-4	Silt loam	ML, SM	A-4	0	0-10	80-95	75-95	65-95	45-85	15-30	NP-4
	4-23	Channery silt loam, channery loam	GM, ML, SM	A-4	0	5-10	65-85	50-75	45-70	40-65	15-30	NP-4
	23-27	Very channery loam, channery silt loam, very channery fine sandy loam	GM, ML, SM	A-1, A-2, A-4	0	5-25	40-75	30-70	25-70	15-60	15-30	NP-4
	27-31	Unweathered bedrock			---	---	---	---	---	---	---	---

TABLE 28.--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	
LtE:												
Lordstown-------	0-12	Silt loam	ML	A-4	0	2-5	90-100	80-95	70-90	65-80	15-30	NP-4
	12-24	Silt loam	ML	A-4	0	8-12	75-90	70-85	60-80	60-75	15-30	NP-4
	24-36	Channery loam	SM	A-2, A-4	0	10-20	60-75	55-70	45-65	30-50	15-30	NP-4
	36-38	Unweathered bedrock			---	---	---	---	---	---	---	---
Loudonville-----	0-14	Silt loam	CL-ML	A-4	0	0-2	95-100	85-95	70-90	70-85	20-35	2-10
	14-26	Clay loam	CL	A-6	0	1-5	85-95	80-90	70-90	70-85	25-42	6-18
	26-38	Sandy loam	SC, SM	A-2, A-4	0	5-40	70-90	60-80	50-75	25-45	20-35	NP-8
	38-40	Unweathered bedrock			---	---	---	---	---	---	---	---
LtF:												
Lordstown-------	0-12	Silt loam	ML	A-4	0	2-5	90-100	80-95	70-90	65-80	15-30	NP-4
	12-24	Silt loam	ML	A-4	0	8-12	75-90	70-85	60-80	60-75	15-30	NP-4
	24-36	Channery loam	SM	A-2, A-4	0	10-20	60-75	55-70	45-65	30-50	15-30	NP-4
	36-38	Unweathered bedrock			---	---	---	---	---	---	---	---
Loudonville-----	0-14	Silt loam	CL-ML	A-4	0	0-2	95-100	85-95	70-90	70-85	20-35	2-10
	14-26	Clay loam	CL	A-6	0	1-5	85-95	80-90	70-90	70-85	25-42	6-18
	26-38	Sandy loam	SC, SM	A-2, A-4	0	5-40	70-90	60-80	50-75	25-45	20-35	NP-8
	38-40	Unweathered bedrock			---	---	---	---	---	---	---	---
LvB:												
Loudonville-----	0-14	Silt loam	CL-ML	A-4	0	0-2	95-100	85-95	70-90	70-85	20-35	2-10
	14-26	Clay loam	CL	A-6	0	1-5	85-95	80-90	70-90	70-85	25-42	6-18
	26-38	Sandy loam	SC, SM	A-2, A-4	0	5-40	70-90	60-80	50-75	25-45	20-35	NP-8
	38-40	Unweathered bedrock			---	---	---	---	---	---	---	---
LvC:												
Loudonville-----	0-14	Silt loam	CL-ML	A-4	0	0-2	95-100	85-95	70-90	70-85	20-35	2-10
	14-26	Clay loam	CL	A-6	0	1-5	85-95	80-90	70-90	70-85	25-42	6-18
	26-38	Sandy loam	SC, SM	A-2, A-4	0	5-40	70-90	60-80	50-75	25-45	20-35	NP-8
	38-40	Unweathered bedrock			---	---	---	---	---	---	---	---
LvD:												
Loudonville-----	0-14	Silt loam	CL-ML	A-4	0	0-2	95-100	85-95	70-90	70-85	20-35	2-10
	14-26	Clay loam	CL	A-6	0	1-5	85-95	80-90	70-90	70-85	25-42	6-18
	26-38	Sandy loam	SC, SM	A-2, A-4	0	5-40	70-90	60-80	50-75	25-45	20-35	NP-8
	38-40	Unweathered bedrock			---	---	---	---	---	---	---	---
Ly:												
Luray----------	0-11	Silty clay loam	CL	A-6	0	0	100	95-100	90-100	85-95	35-55	10-25
	11-42	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	90-100	85-95	35-60	15-30
	42-60	Silt loam	CL, ML	A-4, A-6	0	0	100	95-100	90-100	70-80	25-50	5-20
LzB:												
Lykens---------	0-8	Silt loam	ML	A-4, A-6	0	0	100	95-100	85-100	60-90	30-40	4-12
	8-22	Silty clay loam, silt loam	CL	A-4, A-6, A-7	0	0	95-100	95-100	90-100	70-90	30-45	9-20
	22-29	Clay loam, loam, sandy loam	CL, SC	A-4, A-6	0	0-2	85-100	70-100	60-90	35-70	28-40	8-18
	29-75	Silty clay loam, clay loam, loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0-5	90-100	85-100	80-100	65-85	28-42	6-14
MeB:												
Mentor---------	0-14	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	75-95	20-35	3-14
	14-36	Silt loam	CL	A-6	0	0	100	95-100	90-100	75-90	20-40	4-18
	36-50	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	90-100	70-85	20-40	2-15
	50-60	Silt loam, gravelly sandy loam	ML	A-4	0	0-5	95-100	75-90	65-85	60-75	20-40	2-15
MeC:												
Mentor---------	0-14	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	75-95	20-35	3-14
	14-36	Silt loam	CL	A-6	0	0	100	95-100	90-100	75-90	20-40	4-18
	36-50	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	90-100	70-85	20-40	2-15
	50-60	Silt loam, gravelly sandy loam	ML	A-4	0	0-5	95-100	75-90	65-85	60-75	20-40	2-15
Op:												
Olmsted--------	0-10	Silty clay loam	CL	A-6	0	0	95-100	90-100	85-100	80-95	30-40	12-18
	10-40	Sandy loam, clay loam, silt loam, loam	CL, ML, SC, SM	A-2, A-4, A-6	0	0	80-100	70-100	50-80	30-65	20-40	NP-15
	40-60	Gravelly sandy loam, sand, clay loam	CL, ML, SC, SM	A-2, A-4, A-6	0	0-5	65-95	60-90	40-70	25-55	20-35	NP-12

TABLE 28.--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	
Or:												
Orrville Variant	0-14	Loam	ML	A-4	0	0-5	95-100	90-100	80-95	55-75	18-35	2-12
	14-38	Very gravelly loam	GM, SM	A-2	0	10-20	45-70	35-50	30-45	25-35	18-35	2-12
	38-40	Unweathered bedrock			---	---	---	---	---	---	---	---
Pa:												
Pewamo	0-11	Silt loam	CL-ML, ML	A-6	0	0	100	95-100	90-100	80-95	35-50	15-25
	11-41	Silty clay loam	CL, CL-ML	A-6, A-7	0	0	95-100	90-100	90-100	80-95	40-55	20-35
	41-60	Silty clay loam	CL	A-6, A-7	0	0-5	90-100	80-100	80-90	75-85	40-50	15-25
Pc:												
Pewamo	0-11	Silt loam	CL-ML, ML	A-6	0	0	100	95-100	90-100	80-95	35-50	15-25
	11-41	Silty clay loam	CL, CL-ML	A-6, A-7	0	0	95-100	90-100	90-100	80-95	40-55	20-35
	41-60	Silty clay loam	CL	A-6, A-7	0	0-5	90-100	80-100	80-90	75-85	40-50	15-25
Pg:												
Pits, Gravel	---	---	---	---	---	---	---	---	---	---	---	---
Pm:												
Pewamo	0-11	Silty clay loam	CL-ML, ML	A-6	0	0	100	95-100	90-100	80-95	35-50	15-25
	11-41	Silty clay loam	CL, CL-ML	A-6, A-7	0	0	95-100	90-100	90-100	80-95	40-55	20-35
	41-60	Silty clay loam	CL	A-6, A-7	0	0-5	90-100	80-100	80-90	75-85	40-50	15-25
ReA:												
Ravenna	0-16	Silt loam	CL-ML, ML	A-4	0	0	95-100	85-95	80-90	70-85	25-35	4-10
	16-23	Silt loam	CL	A-6	0	0	90-100	85-100	80-95	70-85	25-40	6-15
	23-50	Loam	CL	A-6	0	2-5	90-100	85-95	75-90	60-75	20-35	3-15
	50-60	Loam	CL-ML	A-4, A-6	0	2-5	95-100	85-95	75-90	60-75	20-32	3-12
ReB:												
Ravenna	0-16	Silt loam	CL-ML, ML	A-4	0	0	95-100	85-95	80-90	70-85	25-35	4-10
	16-23	Silt loam	CL	A-6	0	0	90-100	85-100	80-95	70-85	25-40	6-15
	23-50	Loam	CL	A-6	0	2-5	90-100	85-95	75-90	60-75	20-35	3-15
	50-60	Loam	CL-ML	A-4, A-6	0	2-5	95-100	85-95	75-90	60-75	20-32	3-12
RsB:												
Rittman	0-13	Silt loam	CL-ML, ML	A-4	0	0-3	95-100	90-100	85-100	70-85	25-40	4-14
	13-18	Silty clay loam	CL	A-6	0	0-3	95-100	85-95	80-90	75-85	30-45	11-20
	18-42	Silty clay loam	CL	A-6	0	0-3	95-100	80-95	75-90	70-85	25-40	6-18
	42-60	Clay loam	CL-ML	A-4, A-6	0	0-3	95-100	85-100	80-95	65-80	25-40	6-16
RsB2:												
Rittman	0-13	Silt loam	CL-ML, ML	A-4	0	0-3	95-100	90-100	85-100	70-85	25-40	4-14
	13-18	Silty clay loam	CL	A-6	0	0-3	95-100	85-95	80-90	75-85	30-45	11-20
	18-42	Silty clay loam	CL	A-6	0	0-3	95-100	80-95	75-90	70-85	25-40	6-18
	42-60	Clay loam	CL-ML	A-4, A-6	0	0-3	95-100	85-100	80-95	65-80	25-40	6-16
RsC:												
Rittman	0-13	Silt loam	CL-ML, ML	A-4	0	0-3	95-100	90-100	85-100	70-85	25-40	4-14
	13-18	Silty clay loam	CL	A-6	0	0-3	95-100	85-95	80-90	75-85	30-45	11-20
	18-42	Silty clay loam	CL	A-6	0	0-3	95-100	80-95	75-90	70-85	25-40	6-18
	42-60	Clay loam	CL-ML	A-4, A-6	0	0-3	95-100	85-100	80-95	65-80	25-40	6-16
RsC2:												
Rittman	0-13	Silt loam	CL-ML, ML	A-4	0	0-3	95-100	90-100	85-100	70-85	25-40	4-14
	13-18	Silty clay loam	CL	A-6	0	0-3	95-100	85-95	80-90	75-85	30-45	11-20
	18-42	Silty clay loam	CL	A-6	0	0-3	95-100	80-95	75-90	70-85	25-40	6-18
	42-60	Clay loam	CL-ML	A-4, A-6	0	0-3	95-100	85-100	80-95	65-80	25-40	6-16
RsD:												
Rittman	0-13	Silt loam	CL-ML, ML	A-4	0	0-3	95-100	90-100	85-100	70-85	25-40	4-14
	13-18	Silty clay loam	CL	A-6	0	0-3	95-100	85-95	80-90	75-85	30-45	11-20
	18-42	Silty clay loam	CL	A-6	0	0-3	95-100	80-95	75-90	70-85	25-40	6-18
	42-60	Clay loam	CL-ML	A-4, A-6	0	0-3	95-100	85-100	80-95	65-80	25-40	6-16
RsD2:												
Rittman	0-13	Silt loam	CL-ML, ML	A-4	0	0-3	95-100	90-100	85-100	70-85	25-40	4-14
	13-18	Silty clay loam	CL	A-6	0	0-3	95-100	85-95	80-90	75-85	30-45	11-20
	18-42	Silty clay loam	CL	A-6	0	0-3	95-100	80-95	75-90	70-85	25-40	6-18
	42-60	Clay loam	CL-ML	A-4, A-6	0	0-3	95-100	85-100	80-95	65-80	25-40	6-16
RtC3:												
Rittman	0-13	Silty clay loam	CL-ML, ML	A-4	0	0-3	95-100	90-100	85-100	70-85	30-45	11-20
	13-18	Silty clay loam	CL	A-6	0	0-3	95-100	85-95	80-90	75-85	30-45	11-20
	18-42	Silty clay loam	CL	A-6	0	0-3	95-100	80-95	75-90	70-85	25-40	6-18
	42-60	Clay loam	CL-ML	A-4, A-6	0	0-3	95-100	85-100	80-95	65-80	25-40	6-16
RtD3:												
Rittman	0-13	Silty clay loam	CL-ML, ML	A-4	0	0-3	95-100	90-100	85-100	70-85	30-45	11-20
	13-18	Silty clay loam	CL	A-6	0	0-3	95-100	85-95	80-90	75-85	30-45	11-20
	18-42	Silty clay loam	CL	A-6	0	0-3	95-100	80-95	75-90	70-85	25-40	6-18
	42-60	Clay loam	CL-ML	A-4, A-6	0	0-3	95-100	85-100	80-95	65-80	25-40	6-16

TABLE 28.--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	
SaC:												
Schaffenaker----	0-4	Loamy sand	SM, SP	A-1, A-2	0	5-10	90-100	90-100	40-70	5-25	---	NP
	4-10	Loamy sand	SM, SP	A-1, A-2	0	5-10	90-100	90-100	40-70	5-25	---	NP
	10-20	Loamy sand	SM, SP	A-1, A-2	0	5-10	90-100	90-100	40-70	5-25	---	NP
	20-28	Loamy sand	SM, SP	A-1, A-2	0	5-10	90-100	90-100	40-70	5-25	---	NP
	28-30	Unweathered bedrock			---	---	---	---	---	---	---	---
SaD:												
Schaffenaker----	0-4	Loamy sand	SM, SP	A-1, A-2	0	5-10	90-100	90-100	40-70	5-25	---	NP
	4-10	Loamy sand	SM, SP	A-1, A-2	0	5-10	90-100	90-100	40-70	5-25	---	NP
	10-20	Loamy sand	SM, SP	A-1, A-2	0	5-10	90-100	90-100	40-70	5-25	---	NP
	20-28	Loamy sand	SM, SP	A-1, A-2	0	5-10	90-100	90-100	40-70	5-25	---	NP
	28-30	Unweathered bedrock			---	---	---	---	---	---	---	---
SaE:												
Schaffenaker----	0-4	Loamy sand	SM, SP	A-1, A-2	0	5-10	90-100	90-100	40-70	5-25	---	NP
	4-10	Loamy sand	SM, SP	A-1, A-2	0	5-10	90-100	90-100	40-70	5-25	---	NP
	10-20	Loamy sand	SM, SP	A-1, A-2	0	5-10	90-100	90-100	40-70	5-25	---	NP
	20-28	Loamy sand	SM, SP	A-1, A-2	0	5-10	90-100	90-100	40-70	5-25	---	NP
	28-30	Unweathered bedrock			---	---	---	---	---	---	---	---
SbE:												
Schaffenaker----	0-14	Loamy sand	SM, SP-SM, SW-SM	A-2, A-3, A-1	0	0-5	85-100	75-100	35-80	5-35	---	NP
	14-28	Loamy sand, channery loamy fine sand, channery sand	SM, SP-SM, SW-SM	A-1, A-2, A-3	0	0-10	60-100	55-100	30-60	5-25	---	NP
	28-32	Unweathered bedrock			---	---	---	---	---	---	---	---
Se:												
Sebring---------	0-12	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	85-95	20-35	3-10
	12-20	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	90-100	85-95	30-50	7-22
	20-37	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	90-100	85-95	30-50	7-22
	37-60	Silt loam	CL, CL-ML	A-6	0	0	100	95-100	90-100	70-90	20-45	3-20
Sh:												
Shoals----------	0-16	Silt loam	ML	A-4	0	0-5	100	95-100	90-100	80-95	20-35	6-15
	16-42	Silt loam	CL-ML	A-6	0	0-5	100	95-100	90-100	80-90	25-40	5-15
	42-60	Silt loam	ML	A-4, A-6	0	0-5	95-100	90-100	85-95	60-80	15-30	3-10
Sk:												
Shoals Variant--	0-10	Loam	ML	A-4	0	0-3	95-100	85-95	70-90	60-75	18-35	2-12
	10-40	Very gravelly sand	GM, SM	A-2	0	2-5	50-75	40-60	25-45	5-20	---	NP
	40-60	Gravelly sand	SM, SP	A-1, A-2	0	5-10	85-95	50-70	25-45	5-20	---	NP
SmA:												
Sleeth----------	0-10	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	95-100	85-95	16-30	3-10
	10-60	Clay loam, silt loam, loam	CL	A-4, A-6	0	0	100	95-100	85-100	65-90	25-40	8-16
	60-80	Stratified sand to gravelly clay loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	95-100	50-90	5-70	15-24	2-7
So:												
Sloan----------	0-19	Silty clay loam	CL	A-7	0	0	100	95-100	90-100	85-95	35-45	12-20
	19-30	Silty clay loam	CL	A-7	0	0	100	95-100	90-100	85-95	30-45	8-18
	30-60	Silt loam	CL, ML	A-6	0	0-5	100	95-100	90-100	70-85	25-40	3-15
TmA:												
Tiro----------	0-8	Silt loam	CL-ML	A-4	0	0	100	90-100	85-100	70-85	25-35	3-12
	8-25	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	85-100	80-95	30-45	12-25
	25-32	Clay loam, loam	CL	A-6, A-7	0	0	100	95-100	85-100	80-95	20-40	2-16
	32-60	Clay loam	CL	A-6, A-7	0	2-5	90-100	85-95	75-90	70-85	20-40	3-18
TmB:												
Tiro----------	0-8	Silt loam	CL-ML	A-4	0	0	100	90-100	85-100	70-85	25-35	3-12
	8-25	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	85-100	80-95	30-45	12-25
	25-32	Clay loam, loam	CL	A-6, A-7	0	0	100	95-100	85-100	80-95	20-40	2-16
	32-60	Clay loam	CL	A-6, A-7	0	2-5	90-100	85-95	75-90	70-85	20-40	3-18
TvB:												
Titusville------	0-11	Silt loam	CL-ML, ML	A-4	0	0-2	95-100	85-95	80-95	70-90	20-35	2-10
	11-21	Silty clay loam	CL, CL-ML	A-6	0	0-2	95-100	85-95	80-95	70-90	30-45	8-20
	21-45	Loam	CL, CL-ML	A-4, A-6	0	2-4	90-100	85-95	80-95	70-85	20-35	6-18
	45-60	Loam	ML	A-4	0	4-8	90-95	85-95	70-90	55-65	20-35	5-15
	60-81	Loam, clay loam, gravelly loam	GC, SC, CL, CL-ML	A-4, A-6	0	0-5	60-100	50-95	45-80	35-70	20-35	4-15

TABLE 28.--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	
TvC:												
Titusville------	0-11	Silt loam	CL-ML, ML	A-4	0	0-2	95-100	85-95	80-95	70-90	20-35	2-10
	11-21	Silty clay loam	CL, CL-ML	A-6	0	0-2	95-100	85-95	80-95	70-90	30-45	8-20
	21-45	Loam	CL, CL-ML	A-4, A-6	0	2-4	90-100	85-95	80-95	70-85	20-35	6-18
	45-60	Loam	ML	A-4	0	4-8	90-95	85-95	70-90	55-65	20-35	5-15
	60-81	Loam, clay loam, gravelly loam	CL, CL-ML, GC, SC	A-4, A-6	0	0-5	60-100	50-95	45-80	35-70	20-35	4-15
Uc:												
Udorthents------	---	---	---	---	---	---	---	---	---	---	---	---
Ud:												
Udorthents------	---	---	---	---	---	---	---	---	---	---	---	---
Ur:												
Urban Land------	---	---	---	---	---	---	---	---	---	---	---	---
WaA:												
Wadsworth-------	0-13	Silt loam	ML	A-4	0	0-3	95-100	90-100	90-100	75-90	20-35	3-12
	13-20	Silty clay loam	CL	A-6	0	0-3	95-100	90-95	85-90	70-80	30-45	12-20
	20-38	Silty clay loam	CL	A-6	0	0-3	85-100	80-100	75-95	60-85	25-40	6-18
	38-60	Loam	CL, CL-ML	A-6, A-4	0	0-3	90-100	80-100	75-95	60-85	25-40	6-16
WaB:												
Wadsworth-------	0-13	Silt loam	ML	A-4	0	0-3	95-100	90-100	90-100	75-90	20-35	3-12
	13-20	Silty clay loam	CL	A-6	0	0-3	95-100	90-95	85-90	70-80	30-45	12-20
	20-38	Silty clay loam	CL	A-6	0	0-3	85-100	80-100	75-95	60-85	25-40	6-18
	38-60	Loam	CL, CL-ML	A-4, A-6	0	0-3	90-100	80-100	75-95	60-85	25-40	6-16
Wc:												
Wallkill--------	0-24	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	75-85	24-34	8-15
	24-50	Muck	PT		0	0	0	0	0	0	---	---
	50-60	Silt loam	ML	A-4	0	0	100	95-100	90-100	80-90	20-40	3-20
WeD:												
Westmoreland----	0-3	Silt loam	CL, ML	A-4, A-6	0	0	85-100	80-100	75-95	60-95	---	---
	3-24	Loam, channery silt loam, silt loam	CL, GC, GM, ML	A-4, A-6, A-7	0	0-15	65-100	55-95	50-90	45-85	22-45	2-20
	24-48	Extremely channery silt loam, very channery silt loam, channery silty clay loam	GC, GM, SC, SM	A-1, A-2, A-4, A-6	0	0-20	25-95	20-95	15-90	15-80	20-40	2-20
	48-50	Unweathered bedrock			---	---	---	---	---	---	---	---
WhA:												
Wheeling--------	0-18	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-100	70-80	15-35	NP-10
	18-28	Clay loam	CL, CL-ML	A-6	0	0-1	95-100	90-100	85-100	80-90	20-40	2-20
	28-36	Gravelly sandy clay loam	SC, SM	A-2, A-4	0	2-5	80-95	75-85	60-75	30-45	15-20	NP-10
	36-60	Gravelly sandy loam	SM, GM	A-2, A-1	0	5-10	70-80	55-65	40-65	10-25	15-20	NP-10
WhB:												
Wheeling--------	0-18	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-100	70-80	15-35	NP-10
	18-28	Clay loam	CL, CL-ML	A-6	0	0-1	95-100	90-100	85-100	80-90	20-40	2-20
	28-36	Gravelly sandy clay loam	SC, SM	A-2, A-4	0	2-5	80-95	75-85	60-75	30-45	15-20	NP-10
	36-60	Gravelly sandy loam	SM, GM	A-2, A-1	0	5-10	70-80	55-65	40-65	10-25	15-20	NP-10
WhC:												
Wheeling--------	0-18	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-100	70-80	15-35	NP-10
	18-28	Clay loam	CL, CL-ML	A-6	0	0-1	95-100	95-100	85-100	80-90	20-40	2-20
	28-36	Gravelly sandy clay loam	SC, SM	A-4, A-2	0	2-5	80-95	75-85	60-75	30-45	15-20	NP-10
	36-60	Gravelly sandy loam	SM, GM	A-2, A-1	0	5-10	70-80	55-65	40-65	10-25	15-20	NP-10
WmD:												
Mentor----------	0-14	Silt loam	CL-ML	A-4	0	0	100	95-100	90-100	75-95	20-35	3-14
	14-36	Silt loam	CL	A-6	0	0	100	95-100	90-100	75-90	20-40	4-18
	36-50	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	90-100	70-85	20-40	2-15
	50-60	Silt loam, gravelly sandy loam	ML	A-4	0	0-5	95-100	75-90	65-85	60-75	20-40	2-15
Wheeling--------	0-18	Silt loam	CL-ML	A-4	0	0	95-100	90-100	85-100	70-80	15-35	NP-10
	18-28	Clay loam	CL, CL-ML	A-6	0	0-1	95-100	90-100	85-100	80-90	20-40	2-20
	28-36	Gravelly sandy clay loam	SC, SM	A-2, A-4	0	2-5	80-95	75-85	60-75	30-45	15-20	NP-10
	36-60	Gravelly sandy loam	SM, GM	A-2, A-1	0	5-10	70-80	55-65	40-65	10-25	15-20	NP-10

TABLE 28.--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	
WsB:												
Wooster---------	0-12	Silt loam	CL-ML	A-4	0	1-3	95-100	90-100	80-95	70-85	25-40	4-14
	12-24	Silt loam	CL, CL-ML	A-6	0	1-3	95-100	85-95	75-90	65-80	30-40	6-15
	24-40	Silt loam	CL	A-6	0	3-5	90-100	85-95	75-90	60-75	25-40	4-15
	40-60	Loam	CL-ML, ML	A-6, A-4	0	4-8	90-100	80-95	70-85	60-75	20-35	3-12
WsB2:												
Wooster---------	0-12	Silt loam	CL-ML	A-4	0	1-3	95-100	90-100	80-95	70-85	25-40	4-14
	12-24	Silt loam	CL, CL-ML	A-6	0	1-3	95-100	85-95	75-90	65-80	30-40	6-15
	24-40	Silt loam	CL	A-6	0	3-5	90-100	85-95	75-90	60-75	25-40	4-15
	40-60	Loam	CL-ML, ML	A-4, A-6	0	4-8	90-100	80-95	70-85	60-75	20-35	3-12
WsC:												
Wooster---------	0-12	Silt loam	CL-ML	A-4	0	1-3	95-100	90-100	80-95	70-85	25-40	4-14
	12-24	Silt loam	CL, CL-ML	A-6	0	1-3	95-100	85-95	75-90	65-80	30-40	6-15
	24-40	Silt loam	CL	A-6	0	3-5	90-100	85-95	75-90	60-75	25-40	4-15
	40-60	Loam	CL-ML, ML	A-4, A-6	0	4-8	90-100	80-95	70-85	60-75	20-35	3-12
WsC2:												
Wooster---------	0-12	Silt loam	CL-ML	A-4	0	1-3	95-100	90-100	80-95	70-85	25-40	4-14
	12-24	Silt loam	CL, CL-ML	A-6	0	1-3	95-100	85-95	75-90	65-80	30-40	6-15
	24-40	Silt loam	CL	A-6	0	3-5	90-100	85-95	75-90	60-75	25-40	4-15
	40-60	Loam	CL-ML, ML	A-4, A-6	0	4-8	90-100	80-95	70-85	60-75	20-35	3-12
WsD:												
Wooster---------	0-12	Silt loam	CL-ML	A-4	0	1-3	95-100	90-100	80-95	70-85	25-40	4-14
	12-24	Silt loam	CL, CL-ML	A-6	0	1-3	95-100	85-95	75-90	65-80	30-40	6-15
	24-40	Silt loam	CL	A-6	0	3-5	90-100	85-95	75-90	60-75	25-40	4-15
	40-60	Loam	CL-ML, ML	A-4, A-6	0	4-8	90-100	80-95	70-85	60-75	20-35	3-12
WsD2:												
Wooster---------	0-12	Silt loam	CL-ML	A-4	0	1-3	95-100	90-100	80-95	70-85	25-40	4-14
	12-24	Silt loam	CL, CL-ML	A-6	0	1-3	95-100	85-95	75-90	65-80	30-40	6-15
	24-40	Silt loam	CL	A-6	0	3-5	90-100	85-95	75-90	60-75	25-40	4-15
	40-60	Loam	CL-ML, ML	A-4, A-6	0	4-8	90-100	80-95	70-85	60-75	20-35	3-12
WsD3:												
Wooster---------	0-12	Silt loam	CL-ML	A-4	0	1-3	95-100	90-100	80-95	70-85	25-40	4-14
	12-24	Silt loam	CL, CL-ML	A-6	0	1-3	95-100	85-95	75-90	65-80	30-40	6-15
	24-40	Silt loam	CL	A-6	0	3-5	90-100	85-95	75-90	60-75	25-40	4-15
	40-60	Loam	CL-ML, ML	A-4, A-6	0	4-8	90-100	80-95	70-85	60-75	20-35	3-12
WsE:												
Wooster---------	0-12	Silt loam	CL-ML	A-4	0	1-3	95-100	90-100	80-95	70-85	25-40	4-14
	12-24	Silt loam	CL, CL-ML	A-6	0	1-3	95-100	85-95	75-90	65-80	30-40	6-15
	24-40	Silt loam	CL	A-6	0	3-5	90-100	85-95	75-90	60-75	25-40	4-15
	40-60	Loam	CL-ML, ML	A-4, A-6	0	4-8	90-100	80-95	70-85	60-75	20-35	3-12
WsE2:												
Wooster---------	0-5	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	90-100	80-100	70-95	50-90	25-40	4-14
	5-27	Loam, gravelly loam, silt loam	CL, ML, SC, SM	A-4, A-6	0	0	85-100	70-100	60-95	45-90	30-40	6-15
	27-40	Loam, gravelly loam, clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-5	80-100	65-95	60-90	45-75	25-40	4-15
	40-80	Loam, gravelly loam, sandy loam	CL, ML, SC, SM	A-2, A-4, A-6	0	0-5	75-100	60-95	45-85	30-70	20-35	3-12
WsF:												
Wooster---------	0-12	Silt loam	CL-ML	A-4	0	1-3	95-100	90-100	80-95	70-85	25-40	4-14
	12-24	Silt loam	CL, CL-ML	A-6	0	1-3	95-100	85-95	75-90	65-80	30-40	6-15
	24-40	Silt loam	CL	A-6	0	3-5	90-100	85-95	75-90	60-75	25-40	4-15
	40-60	Loam	CL-ML, ML	A-4, A-6	0	4-8	90-100	80-95	70-85	60-75	20-35	3-12
WtB:												
Wooster---------	0-12	Silt loam	CL-ML	A-4	0	1-3	95-100	90-100	80-95	70-85	25-40	4-14
	12-24	Silt loam	CL, CL-ML	A-6	0	1-3	95-100	85-95	75-90	65-80	30-40	6-15
	24-40	Silt loam	CL	A-6	0	3-5	90-100	85-95	75-90	60-75	25-40	4-15
	40-60	Loam	CL-ML, ML	A-4, A-6	0	4-8	90-100	80-95	70-85	60-75	20-35	3-12
Chili----------	0-10	Loam	ML, SM	A-4	0	0-2	95-100	80-100	70-85	45-70	25-35	4-10
	10-28	Gravelly loam, gravelly sandy clay loam	ML, SC	A-4	0	2-5	70-90	60-80	55-75	40-55	15-30	NP-12
	28-44	Gravelly loam	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	15-30	NP-8
	44-60	Stratified loamy sand to gravel	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	---	NP

TABLE 28.--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	
WtC:												
Wooster---------	0-12	Silt loam	CL-ML	A-4	0	1-3	95-100	90-100	80-95	70-85	25-40	4-14
	12-24	Silt loam	CL, CL-ML	A-6	0	1-3	95-100	85-95	75-90	65-80	30-40	6-15
	24-40	Silt loam	CL	A-6	0	3-5	90-100	85-95	75-90	60-75	25-40	4-15
	40-60	Loam	CL-ML, ML	A-4, A-6	0	4-8	90-100	80-95	70-85	60-75	20-35	3-12
Chili----------	0-10	Loam	ML, SM	A-4	0	0-2	95-100	80-100	70-85	45-70	25-35	4-10
	10-28	Gravelly loam, gravelly sandy clay loam	ML, SC	A-4	0	2-5	70-90	60-80	55-75	40-55	15-30	NP-12
	28-44	Gravelly loam	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	15-30	NP-8
	44-60	Stratified loamy sand to gravel	SM	A-1, A-2	0	5-10	55-70	40-60	30-50	15-25	---	NP
WvE3:												
Wooster---------	0-12	Silt loam	CL-ML	A-4	0	1-3	95-100	90-100	80-95	70-85	25-40	4-14
	12-24	Silt loam	CL, CL-ML	A-6	0	1-3	95-100	85-95	75-90	65-80	30-40	6-15
	24-40	Silt loam	CL	A-6	0	3-5	90-100	85-95	75-90	60-75	25-40	4-15
	40-60	Loam	CL-ML, ML	A-4, A-6	0	4-8	90-100	80-95	70-85	60-75	20-35	3-12

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" apply only to the surface layer. Absence of an entry indicates that data were not estimated. See text on page 248 for additional information.)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Shrink-swell potential	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group
	In	Pct	g/cc	In/hr	In/in					
AcD2:										
Alexandria------	0-5	27-32	1.35-1.55	0.20-2.00	0.17-0.22	Moderate	.37	.37	5	7
	5-27	35-42	1.45-1.70	0.20-0.60	0.11-0.17	Moderate	.37	.43		
	27-60	24-33	1.65-1.85	0.20-0.60	0.07-0.12	Low	.37	.43		
AdB:										
Alexandria------	0-5	12-27	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	5-34	28-38	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	34-60	24-33	1.65-1.85	0.20-0.60	0.08-0.12	Moderate	.37	.43		
AdC:										
Alexandria------	0-5	12-27	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	5-34	28-38	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	34-60	24-33	1.65-1.85	0.20-0.60	0.08-0.12	Moderate	.37	.43		
AdC2:										
Alexandria------	0-5	12-27	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	5-34	28-38	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	34-60	24-33	1.65-1.85	0.20-0.60	0.08-0.12	Moderate	.37	.43		
AdD:										
Alexandria------	0-5	12-27	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	5-34	28-38	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	34-60	24-33	1.65-1.85	0.20-0.60	0.08-0.12	Moderate	.37	.43		
AdD2:										
Alexandria------	0-5	12-27	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	5-34	28-38	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	34-60	24-33	1.65-1.85	0.20-0.60	0.08-0.12	Moderate	.37	.43		
AdE:										
Alexandria------	0-5	12-27	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	5-34	28-38	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	34-60	24-33	1.65-1.85	0.20-0.60	0.08-0.12	Moderate	.37	.43		
AdE2:										
Alexandria------	0-5	12-27	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	5-34	28-38	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	34-60	24-33	1.65-1.85	0.20-0.60	0.08-0.12	Moderate	.37	.43		
AdF:										
Alexandria------	0-5	12-27	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	5-34	28-38	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	34-60	24-33	1.65-1.85	0.20-0.60	0.08-0.12	Moderate	.37	.43		
AeD3:										
Alexandria------	0-5	27-32	1.35-1.55	0.60-2.00	0.17-0.20	Low	.37	.37	5	6
	5-34	35-42	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	34-60	24-33	1.65-1.85	0.20-0.60	0.08-0.12	Moderate	.37	.43		
Ag:										
Algiers---------	0-19	15-27	1.20-1.45	0.60-2.00	0.17-0.20	Low	.37	.37	5	6
	19-30	20-35	1.25-1.65	0.60-2.00	0.16-0.20	Moderate	.37	.37		
	30-47	20-35	1.25-1.65	0.60-2.00	0.16-0.19	Moderate	.37	.37		
	47-60	10-25	1.60-1.70	0.60-2.00	0.16-0.20	Low	.37	.37		
BeB:										
Belmore---------	0-9	10-24	1.30-1.45	2.00-6.00	0.14-0.18	Low	.32	.37	5	5
	9-20	15-30	1.35-1.60	2.00-6.00	0.12-0.16	Low	.32	.37		
	20-44	18-35	1.40-1.60	2.00-6.00	0.10-0.14	Low	.32	.55		
	44-60	5-15	1.50-1.70	6.00-20.00	0.07-0.10	Low	.24	.43		

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Erosion factors Kw	Kf	T	Wind erodi- bility group
	In	Pct	g/cc	In/hr	In/in					
BeC:										
Belmore---------	0-9	10-24	1.30-1.45	2.00-6.00	0.14-0.18	Low	.32	.37	5	5
	9-20	15-30	1.35-1.60	2.00-6.00	0.12-0.16	Low	.32	.37		
	20-44	18-35	1.40-1.60	2.00-6.00	0.10-0.14	Low	.32	.55		
	44-60	5-15	1.50-1.70	6.00-20.00	0.07-0.10	Low	.24	.43		
BeD:										
Belmore---------	0-9	10-24	1.30-1.45	2.00-6.00	0.14-0.18	Low	.32	.37	5	5
	9-20	15-30	1.35-1.60	2.00-6.00	0.12-0.16	Low	.32	.37		
	20-44	18-35	1.40-1.60	2.00-6.00	0.10-0.14	Low	.32	.55		
	44-60	5-15	1.50-1.70	6.00-20.00	0.07-0.10	Low	.24	.43		
BnA:										
Bennington------	0-9	15-25	1.30-1.50	0.60-2.00	0.17-0.20	Low	.43	.43	5	6
	9-36	35-42	1.40-1.70	0.06-0.20	0.16-0.19	Moderate	.32	.37		
	36-60	24-33	1.65-1.80	0.20-0.60	0.08-0.12	Moderate	.32	.37		
BnB:										
Bennington------	0-9	15-25	1.30-1.50	0.60-2.00	0.17-0.20	Low	.43	.43	5	6
	9-36	35-42	1.40-1.70	0.06-0.20	0.16-0.19	Moderate	.32	.37		
	36-60	24-33	1.65-1.80	0.20-0.60	0.08-0.12	Moderate	.32	.37		
BnB2:										
Bennington------	0-9	15-25	1.30-1.50	0.60-2.00	0.17-0.20	Low	.43	.43	5	6
	9-36	35-42	1.40-1.70	0.06-0.20	0.16-0.19	Moderate	.32	.37		
	36-60	24-33	1.65-1.80	0.20-0.60	0.08-0.12	Moderate	.32	.37		
BpB:										
Bennington------	0-9	15-25	1.30-1.50	0.60-2.00	0.17-0.20	Low	.43	.43	5	6
	9-36	35-42	1.40-1.70	0.06-0.20	0.16-0.19	Moderate	.32	.37		
	36-60	24-33	1.65-1.80	0.20-0.60	0.08-0.12	Moderate	.32	.37		
Fitchville------	0-13	16-27	1.30-1.45	0.60-2.00	0.17-0.20	Low	.37	.37	5	6
	13-42	20-35	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.37		
	42-60	16-30	1.40-1.65	0.60-2.00	0.17-0.20	Low	.37	.37		
BrB:										
Berks----------	0-11	5-23	1.20-1.50	2.00-6.00	0.12-0.16	Low	.17	.32	3	5
	11-28	5-32	1.20-1.60	2.00-6.00	0.08-0.10	Low	.17	.49		
	28-38	---	---	2.00-6.00	---	---	---	---		
	38-40	---	---	0.20-2.00	---	---	---	---		
BrC:										
Berks----------	0-11	5-23	1.20-1.50	2.00-6.00	0.12-0.16	Low	.17	.32	3	5
	11-28	5-32	1.20-1.60	2.00-6.00	0.08-0.10	Low	.17	.49		
	28-38	---	---	2.00-6.00	---	---	---	---		
	38-40	---	---	0.20-2.00	---	---	---	---		
BrD:										
Berks----------	0-11	5-23	1.20-1.50	2.00-6.00	0.12-0.16	Low	.17	.32	3	5
	11-28	5-32	1.20-1.60	2.00-6.00	0.08-0.10	Low	.17	.49		
	28-38	---	---	2.00-6.00	---	---	---	---		
	38-40	---	---	0.20-2.00	---	---	---	---		
BsF:										
Berks----------	0-11	5-23	1.20-1.50	2.00-6.00	0.12-0.16	Low	.17	.32	3	5
	11-28	5-32	1.20-1.60	2.00-6.00	0.08-0.10	Low	.17	.49		
	28-38	---	---	2.00-6.00	---	---	---	---		
	38-40	---	---	0.20-2.00	---	---	---	---		
Rock outcrop----	---	---	---	---	---	---	---	---	-	---
BtA:										
Bogart----------	0-10	7-24	1.30-1.50	0.60-2.00	0.11-0.15	Low	.32	.37	4	5
	10-34	18-30	1.25-1.60	0.60-2.00	0.11-0.15	Low	.32	.55		
	34-60	4-16	1.20-1.50	2.00-6.00	0.07-0.10	Low	.10	.24		

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Erosion factors Kw	Kf	T	Wind erodi- bility group
	In	Pct	g/cc	In/hr	In/in					
BtB:										
Bogart----------	0-10	7-24	1.30-1.50	0.60-2.00	0.11-0.15	Low	.32	.37	4	5
	10-34	18-30	1.25-1.60	0.60-2.00	0.11-0.15	Low	.32	.55		
	34-60	4-16	1.20-1.50	2.00-6.00	0.07-0.10	Low	.10	.24		
BvA:										
Bogart----------	0-10	7-24	1.30-1.50	0.60-2.00	0.11-0.15	Low	.32	.37	4	5
	10-34	18-30	1.25-1.60	0.60-2.00	0.11-0.15	Low	.32	.55		
	34-60	4-16	1.20-1.50	2.00-6.00	0.07-0.10	Low	.10	.24		
BvB:										
Bogart----------	0-10	7-24	1.30-1.50	0.60-2.00	0.11-0.15	Low	.32	.37	4	5
	10-34	18-30	1.25-1.60	0.60-2.00	0.11-0.15	Low	.32	.55		
	34-60	4-16	1.20-1.50	2.00-6.00	0.07-0.10	Low	.10	.24		
BwC:										
Brownsville-----	0-8	8-18	1.20-1.45	0.60-6.00	0.09-0.17	Low	.20	.43	4	8
	8-24	8-18	1.30-1.60	0.60-6.00	0.07-0.14	Low	.17	.55		
	24-48	8-18	1.30-1.60	2.00-6.00	0.03-0.12	Low	.17	.64		
	48-52	---	---	0.20-0.60	---	---	---	---		
BwD:										
Brownsville-----	0-8	8-18	1.20-1.45	0.60-6.00	0.09-0.17	Low	.20	.43	4	8
	8-24	8-18	1.30-1.60	0.60-6.00	0.07-0.14	Low	.17	.55		
	24-48	8-18	1.30-1.60	2.00-6.00	0.03-0.12	Low	.17	.64		
	48-52	---	---	0.20-0.60	---	---	---	---		
BxE:										
Brownsville-----	0-2	8-18	1.20-1.45	0.60-6.00	0.09-0.17	Low	.20	.43	4	8
	2-34	8-18	1.30-1.60	0.60-6.00	0.07-0.14	Low	.17	.55		
	34-48	8-18	1.30-1.60	2.00-6.00	0.03-0.12	Low	.17	.64		
	48-50	---	---	0.20-0.60	---	---	---	---		
Westmoreland----	0-3	15-30	1.20-1.40	0.60-2.00	0.16-0.20	Low	.37	.37	3	6
	3-34	20-35	1.20-1.50	0.60-2.00	0.12-0.18	Low	.28	---		
	34-48	18-35	1.20-1.50	0.60-2.00	0.06-0.10	Low	.17	---		
	48-50	---	---	0.00-2.00	---	---	---	---		
CdB:										
Canfield--------	0-10	10-22	1.30-1.50	0.60-2.00	0.17-0.23	Low	.37	.43	4	5
	10-22	18-27	1.45-1.70	0.60-2.00	0.14-0.18	Moderate	.37	.49		
	22-45	15-27	1.60-1.90	0.06-0.20	0.08-0.12	Moderate	.37	.49		
	45-60	15-25	1.55-1.85	0.60-2.00	0.10-0.14	Low	.37	.49		
CdB2:										
Canfield--------	0-10	10-22	1.30-1.50	0.60-2.00	0.17-0.23	Low	.37	.43	4	5
	10-22	18-27	1.45-1.70	0.60-2.00	0.14-0.18	Moderate	.37	.49		
	22-45	15-27	1.60-1.90	0.06-0.20	0.08-0.12	Moderate	.37	.49		
	45-60	15-25	1.55-1.85	0.60-2.00	0.10-0.14	Low	.37	.49		
CdC:										
Canfield--------	0-10	10-22	1.30-1.50	0.60-2.00	0.17-0.23	Low	.37	.43	4	5
	10-22	18-27	1.45-1.70	0.60-2.00	0.14-0.18	Moderate	.37	.49		
	22-45	15-27	1.60-1.90	0.06-0.20	0.08-0.12	Moderate	.37	.49		
	45-60	15-25	1.55-1.85	0.60-2.00	0.10-0.14	Low	.37	.49		
CdC2:										
Canfield--------	0-10	10-22	1.30-1.50	0.60-2.00	0.17-0.23	Low	.37	.43	4	5
	10-22	18-27	1.45-1.70	0.60-2.00	0.14-0.18	Moderate	.37	.49		
	22-45	15-27	1.60-1.90	0.06-0.20	0.08-0.12	Moderate	.37	.49		
	45-60	15-25	1.55-1.85	0.60-2.00	0.10-0.14	Low	.37	.49		
CgB:										
Cardington------	0-15	12-27	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	5	6
	15-34	35-42	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	34-60	24-33	1.65-1.82	0.20-0.60	0.07-0.09	Moderate	.37	.43		

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Erosion factors Kw	Kf	T	Wind erodi- bility group
	In	Pct	g/cc	In/hr	In/in					
CgB2:										
Cardington------	0-15	12-27	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	5	6
	15-34	35-42	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	34-60	24-33	1.65-1.82	0.20-0.60	0.07-0.09	Moderate	.37	.43		
CgC:										
Cardington------	0-15	12-27	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	5	6
	15-34	35-42	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	34-60	24-33	1.65-1.82	0.20-0.60	0.07-0.09	Moderate	.37	.43		
CgC2:										
Cardington------	0-15	12-27	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	5	6
	15-34	35-42	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	34-60	24-33	1.65-1.82	0.20-0.60	0.07-0.09	Moderate	.37	.43		
ChC3:										
Cardington------	0-15	27-32	1.35-1.55	0.60-2.00	0.17-0.20	Low	.37	.37	5	6
	15-34	35-42	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	34-60	24-33	1.65-1.82	0.20-0.60	0.07-0.09	Moderate	.37	.43		
Ck:										
Carlisle--------	0-60	0-0	0.13-0.23	2.00-6.00	0.23-0.27	Moderate	---	---	3	2
CmB:										
Chili----------	0-10	5-18	1.30-1.50	0.60-2.00	0.14-0.18	Low	.32	.37	4	5
	10-52	18-27	1.25-1.60	2.00-6.00	0.09-0.16	Low	.32	.55		
	52-60	1-10	1.20-1.50	6.00-20.00	0.02-0.08	Low	.10	.32		
CnB:										
Chili----------	0-10	5-18	1.30-1.50	2.00-6.00	0.14-0.18	Low	.32	.37	4	5
	10-28	18-27	1.25-1.60	2.00-6.00	0.08-0.12	Low	.32	.55		
	28-44	5-18	1.25-1.60	6.00-20.00	0.03-0.06	Low	.17	.37		
	44-60	1-10	1.25-1.50	6.00-20.00	0.03-0.06	Low	.10	.32		
CnC:										
Chili----------	0-10	5-18	1.30-1.50	2.00-6.00	0.14-0.18	Low	.32	.37	4	5
	10-28	18-27	1.25-1.60	2.00-6.00	0.08-0.12	Low	.32	.55		
	28-44	5-18	1.25-1.60	6.00-20.00	0.03-0.06	Low	.17	.37		
	44-60	1-10	1.25-1.50	6.00-20.00	0.03-0.06	Low	.10	.32		
CoD:										
Chili----------	0-10	5-15	1.30-1.50	2.00-6.00	0.14-0.18	Low	.24	.43	4	5
	10-28	18-27	1.25-1.60	2.00-6.00	0.08-0.12	Low	.32	.55		
	28-44	5-18	1.25-1.60	6.00-20.00	0.03-0.06	Low	.17	.37		
	44-60	1-10	1.25-1.50	6.00-20.00	0.03-0.06	Low	.10	.32		
Conotton--------	0-16	8-16	1.30-1.50	6.00-20.00	0.10-0.14	Low	.24	.43	5	5
	16-44	6-22	1.25-1.60	6.00-20.00	0.04-0.08	Low	.24	.64		
	44-60	2-9	1.20-1.50	20.00-99.90	0.01-0.03	Low	.10	.37		
CoD3:										
Chili----------	0-10	5-15	1.30-1.50	2.00-6.00	0.14-0.18	Low	.24	.43	4	5
	10-28	18-27	1.25-1.60	2.00-6.00	0.08-0.12	Low	.32	.55		
	28-44	5-18	1.25-1.60	6.00-20.00	0.03-0.06	Low	.17	.37		
	44-60	1-10	1.25-1.50	6.00-20.00	0.03-0.06	Low	.10	.32		
Conotton--------	0-16	8-16	1.30-1.50	6.00-20.00	0.10-0.14	Low	.24	.43	5	5
	16-44	6-22	1.25-1.60	6.00-20.00	0.04-0.08	Low	.24	.64		
	44-60	2-9	1.20-1.50	20.00-99.90	0.01-0.03	Low	.10	.37		

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Erosion factors Kw	Kf	T	Wind erodi- bility group
	In	Pct	g/cc	In/hr	In/in					
CoE:										
Chili----------	0-10	5-15	1.30-1.50	2.00-6.00	0.14-0.18	Low	.24	.43	4	5
	10-28	18-27	1.25-1.60	2.00-6.00	0.08-0.12	Low	.32	.55		
	28-44	5-18	1.25-1.60	6.00-20.00	0.03-0.06	Low	.17	.37		
	44-60	1-10	1.25-1.50	6.00-20.00	0.03-0.06	Low	.10	.32		
Conotton--------	0-16	8-16	1.30-1.50	6.00-20.00	0.10-0.14	Low	.24	.43	5	5
	16-44	6-22	1.25-1.60	6.00-20.00	0.04-0.08	Low	.24	.64		
	44-60	2-9	1.20-1.50	20.00-99.90	0.01-0.03	Low	.10	.37		
CoF:										
Chili----------	0-10	5-15	1.30-1.50	2.00-6.00	0.14-0.18	Low	.24	.43	4	5
	10-28	18-27	1.25-1.60	2.00-6.00	0.08-0.12	Low	.32	.55		
	28-44	5-18	1.25-1.60	6.00-20.00	0.03-0.06	Low	.17	.37		
	44-60	1-10	1.25-1.50	6.00-20.00	0.03-0.06	Low	.10	.32		
Conotton--------	0-16	8-16	1.30-1.50	6.00-20.00	0.10-0.14	Low	.24	.43	5	5
	16-44	6-22	1.25-1.60	6.00-20.00	0.04-0.08	Low	.24	.64		
	44-60	2-9	1.20-1.50	20.00-99.90	0.01-0.03	Low	.10	.37		
Cp:										
Condit----------	0-6	27-35	1.35-1.55	0.20-0.60	0.15-0.19	Moderate	.37	.37	5	7
	6-44	35-45	1.45-1.75	0.06-0.20	0.08-0.16	Moderate	.37	.37		
	44-60	23-36	1.65-1.82	0.06-0.60	0.07-0.12	Moderate	.37	.43		
Cr:										
Condit----------	0-9	18-27	1.30-1.50	0.60-2.00	0.16-0.20	Low	.37	.37	3	6
	9-50	35-45	1.45-1.75	0.06-0.20	0.16-0.19	Moderate	.37	.37		
	50-60	23-36	1.65-1.82	0.20-0.60	0.13-0.16	Moderate	.37	.43		
Cs:										
Condit----------	0-9	18-27	1.30-1.50	0.60-2.00	0.17-0.21	Low	.37	.37	3	6
	9-52	35-45	1.45-1.75	0.06-0.20	0.08-0.16	Moderate	.37	.37		
	52-70	23-36	1.65-1.82	0.06-0.60	0.07-0.12	Moderate	.37	.43		
Bennington------	0-8	15-25	1.30-1.50	0.60-2.00	0.17-0.21	Low	.43	.43	5	6
	8-42	35-42	1.40-1.70	0.06-0.60	0.10-0.17	Moderate	.32	.37		
	42-64	24-33	1.65-1.80	0.06-0.20	0.07-0.12	Low	.32	.37		
CtC:										
Conotton--------	0-16	8-16	1.30-1.50	6.00-20.00	0.10-0.14	Low	.24	.43	5	5
	16-44	6-22	1.25-1.60	6.00-20.00	0.04-0.08	Low	.24	.64		
	44-60	2-9	1.20-1.50	20.00-99.90	0.01-0.03	Low	.10	.37		
CvC:										
Coshocton-------	0-9	15-23	1.30-1.50	0.60-2.00	0.18-0.23	Low	.37	.43	4	5
	9-37	24-35	1.40-1.65	0.06-0.60	0.10-0.17	Moderate	.37	.55		
	37-45	24-36	1.45-1.70	0.06-0.60	0.08-0.12	Moderate	.28	.55		
	45-60	---	---	0.00-0.20	---	---	---	---		
DmB:										
Digby----------	0-14	12-20	1.20-1.40	0.60-2.00	0.14-0.18	Low	.32	.37	4	5
	14-32	18-35	1.45-1.70	0.60-2.00	0.14-0.18	Low	.32	.37		
	32-60	3-15	1.25-1.55	6.00-20.00	0.08-0.12	Low	.10	.20		
FbA:										
Fitchville------	0-6	16-27	1.30-1.45	0.60-2.00	0.17-0.21	Low	.37	.37	5	6
	6-46	20-35	1.45-1.70	0.20-0.60	0.15-0.19	Moderate	.37	.37		
	46-60	16-30	1.40-1.65	0.20-2.00	0.14-0.18	Low	.37	.37		
FcA:										
Fitchville------	0-13	16-27	1.30-1.45	0.60-2.00	0.17-0.20	Low	.37	.37	5	6
	13-42	20-35	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.37		
	42-60	16-30	1.40-1.65	0.60-2.00	0.17-0.20	Low	.37	.37		

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Erosion factors Kw	Kf	T	Wind erodi- bility group
	In	Pct	g/cc	In/hr	In/in					
FcB:										
Fitchville------	0-13	16-27	1.30-1.45	0.60-2.00	0.17-0.20	Low	.37	.37	5	6
	13-42	20-35	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.37		
	42-60	16-30	1.40-1.65	0.60-2.00	0.17-0.20	Low	.37	.37		
FdA:										
Fitchville------	0-13	16-27	1.30-1.45	0.60-2.00	0.17-0.20	Low	.37	.37	5	6
	13-42	20-35	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.37		
	42-60	16-30	1.40-1.65	0.60-2.00	0.17-0.20	Low	.37	.37		
Bennington------	0-9	15-25	1.30-1.50	0.60-2.00	0.17-0.20	Low	.43	.43	5	6
	9-36	35-42	1.40-1.70	0.06-0.20	0.16-0.19	Moderate	.32	.37		
	36-60	24-33	1.65-1.80	0.20-0.60	0.08-0.12	Moderate	.32	.37		
FgA:										
Fitchville Variant--------	0-13	12-18	1.20-1.40	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	13-30	18-35	1.45-1.70	0.20-0.60	0.17-0.20	Moderate	.37	.37		
	30-60	2-18	1.20-1.50	6.00-20.00	0.09-0.12	Low	.20	.43		
FgB:										
Fitchville Variant--------	0-13	12-18	1.20-1.40	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	13-30	18-35	1.45-1.70	0.20-0.60	0.17-0.20	Moderate	.37	.37		
	30-60	2-18	1.20-1.50	6.00-20.00	0.09-0.12	Low	.20	.43		
Fr:										
Frenchtown------	0-12	15-26	1.20-1.40	0.60-2.00	0.18-0.23	Low	.37	.37	4	6
	12-22	22-30	1.25-1.60	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	22-40	16-30	1.50-1.75	0.01-0.06	0.07-0.10	Moderate	.37	.55		
	40-60	15-30	1.35-1.65	0.20-0.60	0.08-0.12	Low	.37	.55		
GdB:										
Gilpin----------	0-9	15-27	1.20-1.40	0.60-2.00	0.12-0.18	Low	.32	.32	3	6
	9-33	18-35	1.20-1.50	0.60-2.00	0.12-0.16	Low	.24	.28		
	33-37	15-35	1.20-1.50	0.60-2.00	0.08-0.12	Low	.24	.32		
	37-39	---	---	0.00-2.00	---	---	---	---		
GdC:										
Gilpin----------	0-9	15-27	1.20-1.40	0.60-2.00	0.12-0.18	Low	.32	.32	3	6
	9-33	18-35	1.20-1.50	0.60-2.00	0.12-0.16	Low	.24	.28		
	33-37	15-35	1.20-1.50	0.60-2.00	0.08-0.12	Low	.24	.32		
	37-39	---	---	0.00-2.00	---	---	---	---		
GfA:										
Glenford--------	0-16	15-27	1.30-1.45	0.60-2.00	0.17-0.20	Low	.37	.37	5	6
	16-26	18-35	1.45-1.65	0.20-0.60	0.16-0.19	Moderate	.43	.43		
	26-40	18-35	1.45-1.65	0.20-0.60	0.16-0.19	Moderate	.43	.43		
	40-60	15-30	1.40-1.60	0.60-2.00	0.16-0.19	Low	.37	.37		
GfB:										
Glenford--------	0-16	15-27	1.30-1.45	0.60-2.00	0.17-0.20	Low	.37	.37	5	6
	16-26	18-35	1.45-1.65	0.20-0.60	0.16-0.19	Moderate	.43	.43		
	26-40	18-35	1.45-1.65	0.20-0.60	0.16-0.19	Moderate	.43	.43		
	40-60	15-30	1.40-1.60	0.60-2.00	0.16-0.19	Low	.37	.37		
GfC:										
Glenford--------	0-16	15-27	1.30-1.45	0.60-2.00	0.17-0.20	Low	.37	.37	5	6
	16-26	18-35	1.45-1.65	0.20-0.60	0.16-0.19	Moderate	.43	.43		
	26-40	18-35	1.45-1.65	0.20-0.60	0.16-0.19	Moderate	.43	.43		
	40-60	15-30	1.40-1.60	0.60-2.00	0.16-0.19	Low	.37	.37		

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Erosion factors Kw	Kf	T	Wind erodi- bility group
	In	Pct	g/cc	In/hr	In/in					
GrB:										
Gresham---------	0-16	15-25	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	4	5
	16-23	20-33	1.40-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.43		
	23-52	20-32	1.60-1.90	0.06-0.20	0.10-0.13	Moderate	.37	.43		
	52-60	20-32	1.55-1.85	0.60-2.00	0.11-0.13	Low	.37	.55		
HaB:										
Haney----------	0-10	12-20	1.30-1.50	0.60-2.00	0.14-0.18	Low	.32	.37	4	5
	10-16	20-35	1.25-1.60	0.60-2.00	0.14-0.18	Low	.32	.37		
	16-40	20-35	1.25-1.60	0.60-2.00	0.10-0.14	Low	.32	.64		
	40-60	3-15	1.25-1.55	6.00-20.00	0.05-0.08	Low	.24	.37		
HfB:										
Hanover---------	0-10	13-25	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	4	5
	10-22	18-30	1.40-1.70	0.60-2.00	0.14-0.18	Moderate	.37	.49		
	22-34	22-32	1.60-1.90	0.20-0.60	0.10-0.13	Moderate	.37	.49		
	34-60	16-30	1.55-1.85	0.20-0.60	0.10-0.14	Low	.37	.55		
HfC:										
Hanover---------	0-10	13-25	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	4	5
	10-22	18-30	1.40-1.70	0.60-2.00	0.14-0.18	Moderate	.37	.49		
	22-34	22-32	1.60-1.90	0.20-0.60	0.10-0.13	Moderate	.37	.49		
	34-60	16-30	1.55-1.85	0.20-0.60	0.10-0.14	Low	.37	.55		
HfC2:										
Hanover---------	0-10	13-25	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	4	5
	10-22	18-30	1.40-1.70	0.60-2.00	0.14-0.18	Moderate	.37	.49		
	22-34	22-32	1.60-1.90	0.20-0.60	0.10-0.13	Moderate	.37	.49		
	34-60	16-30	1.55-1.85	0.20-0.60	0.10-0.14	Low	.37	.55		
HfC3:										
Hanover---------	0-10	13-25	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	4	5
	10-22	18-30	1.40-1.70	0.60-2.00	0.14-0.18	Moderate	.37	.49		
	22-34	22-32	1.60-1.90	0.20-0.60	0.10-0.13	Moderate	.37	.49		
	34-60	16-30	1.55-1.85	0.20-0.60	0.10-0.14	Low	.37	.55		
HfD:										
Hanover---------	0-10	13-25	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	4	5
	10-22	18-30	1.40-1.70	0.60-2.00	0.14-0.18	Moderate	.37	.49		
	22-34	22-32	1.60-1.90	0.20-0.60	0.10-0.13	Moderate	.37	.49		
	34-60	16-30	1.55-1.85	0.20-0.60	0.10-0.14	Low	.37	.55		
HfD2:										
Hanover---------	0-10	13-25	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	4	5
	10-22	18-30	1.40-1.70	0.60-2.00	0.14-0.18	Moderate	.37	.49		
	22-34	22-32	1.60-1.90	0.20-0.60	0.10-0.13	Moderate	.37	.49		
	34-60	16-30	1.55-1.85	0.20-0.60	0.10-0.14	Low	.37	.55		
HfE:										
Hanover---------	0-10	13-25	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.37	4	5
	10-22	18-30	1.40-1.70	0.60-2.00	0.14-0.18	Moderate	.37	.49		
	22-34	22-32	1.60-1.90	0.20-0.60	0.10-0.13	Moderate	.37	.49		
	34-60	16-30	1.55-1.85	0.20-0.60	0.10-0.14	Low	.37	.55		
Ho:										
Holly----------	0-14	15-27	1.20-1.40	0.60-2.00	0.18-0.23	Low	.28	.28	5	6
	14-32	18-30	1.20-1.50	0.60-2.00	0.17-0.20	Moderate	.28	.32		
	32-40	10-27	1.20-1.45	0.60-2.00	0.17-0.20	Low	.28	.32		
	40-60	10-27	1.20-1.40	0.60-2.00	0.17-0.20	Low	.28	.37		
HpB:										
Homewood--------	0-10	13-25	1.30-1.50	0.60-2.00	0.20-0.23	Low	.37	.37	4	5
	10-29	24-32	1.40-1.70	0.60-2.00	0.15-0.20	Low	.37	.43		
	29-67	24-32	1.60-1.90	0.06-0.20	0.06-0.10	Low	.37	.55		
	67-80	16-30	1.55-1.85	0.06-0.20	0.06-0.10	Low	.37	.55		

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Erosion factors Kw	Kf	T	Wind erodi- bility group
	In	Pct	g/cc	In/hr	In/in					
HpC:										
Homewood--------	0-10	13-25	1.30-1.50	0.60-2.00	0.20-0.23	Low	.37	.37	4	5
	10-29	24-32	1.40-1.70	0.60-2.00	0.15-0.20	Low	.37	.43		
	29-67	24-32	1.60-1.90	0.06-0.20	0.06-0.10	Low	.37	.55		
	67-80	16-30	1.55-1.85	0.06-0.20	0.06-0.10	Low	.37	.55		
HpD2:										
Homewood--------	0-10	13-25	1.30-1.50	0.60-2.00	0.20-0.23	Low	.37	.37	4	5
	10-29	24-32	1.40-1.70	0.60-2.00	0.15-0.20	Low	.37	.43		
	29-67	24-32	1.60-1.90	0.06-0.20	0.06-0.10	Low	.37	.55		
	67-80	16-30	1.55-1.85	0.06-0.20	0.06-0.10	Low	.37	.55		
HpE2:										
Homewood--------	0-10	13-25	1.30-1.50	0.60-2.00	0.20-0.23	Low	.37	.37	4	5
	10-29	24-32	1.40-1.70	0.60-2.00	0.15-0.20	Low	.37	.43		
	29-67	24-32	1.60-1.90	0.06-0.20	0.06-0.10	Low	.37	.55		
	67-80	16-30	1.55-1.85	0.06-0.20	0.06-0.10	Low	.37	.55		
JtA:										
Jimtown---------	0-9	10-24	1.30-1.50	0.60-2.00	0.18-0.22	Low	.32	.37	5	5
	9-42	18-27	1.25-1.60	0.60-2.00	0.10-0.18	Low	.32	.43		
	42-84	4-16	1.25-1.65	2.00-6.00	0.04-0.10	Low	.10	.24		
KbA:										
Kibbie----------	0-9	5-25	1.40-1.65	0.60-2.00	0.16-0.24	Low	.28	.28	5	5
	9-44	18-35	1.40-1.65	0.60-2.00	0.17-0.22	Low	.43	.43		
	44-60	2-18	1.40-1.70	0.60-2.00	0.12-0.22	Low	.43	.43		
La:										
Landes----------	0-13	7-20	1.40-1.60	2.00-6.00	0.12-0.15	Low	.20	.24	5	3
	13-27	5-18	1.60-1.70	2.00-6.00	0.09-0.11	Low	.32	.32		
	27-60	5-18	1.60-1.80	6.00-20.00	0.07-0.09	Low	.20	.20		
LfB:										
Latham----------	0-10	20-27	1.30-1.50	0.60-2.00	0.18-0.21	Low	.43	.49	3	6
	10-24	35-55	1.40-1.70	0.06-0.20	0.16-0.19	High	.32	.43		
	24-32	30-40	1.40-1.70	0.20-0.60	0.15-0.18	High	.32	.43		
	32-42	---	---	0.00-0.20	---	---	---	---		
LfC:										
Latham----------	0-10	20-27	1.30-1.50	0.60-2.00	0.18-0.21	Low	.43	.49	3	6
	10-24	35-55	1.40-1.70	0.06-0.20	0.16-0.19	High	.32	.43		
	24-32	30-40	1.40-1.70	0.20-0.60	0.15-0.18	High	.32	.43		
	32-42	---	---	0.00-0.20	---	---	---	---		
Lg:										
Lenawee---------	0-9	27-35	1.40-1.55	0.60-2.00	0.17-0.22	Moderate	.28	.28	5	6
	9-45	35-45	1.40-1.65	0.20-0.60	0.18-0.20	Moderate	.37	.37		
	45-60	18-40	1.50-1.65	0.60-2.00	0.18-0.22	Low	.37	.37		
Lk:										
Linwood---------	0-24	0-0	0.15-0.40	6.00-20.00	0.23-0.25	Moderate	---	---	2	2
	24-40	12-27	0.90-1.20	0.60-2.00	0.17-0.20	Moderate	.28	.28		
	40-60	5-35	1.60-1.90	0.60-2.00	0.16-0.18	Low	.28	.28		
Lo:										
Lobdell---------	0-20	15-27	1.20-1.40	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	20-42	18-30	1.25-1.60	0.60-2.00	0.17-0.20	Moderate	.37	.43		
	42-60	15-30	1.20-1.60	0.60-2.00	0.12-0.16	Low	.37	.43		
LrB:										
Lordstown-------	0-12	8-18	1.10-1.40	0.60-2.00	0.18-0.21	Low	.28	.37	2	5
	12-24	8-18	1.20-1.50	0.60-2.00	0.17-0.20	Low	.28	.55		
	24-36	5-18	1.20-1.50	2.00-6.00	0.08-0.12	Low	.28	.64		
	36-38	---	---	0.20-2.00	---	---	---	---		

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Erosion factors Kw	Kf	T	Wind erodi- bility group
	In	Pct	g/cc	In/hr	In/in					
LrC:										
Lordstown-------	0-12	8-18	1.10-1.40	0.60-2.00	0.18-0.21	Low	.28	.37	2	5
	12-24	8-18	1.20-1.50	0.60-2.00	0.17-0.20	Low	.28	.55		
	24-36	5-18	1.20-1.50	2.00-6.00	0.08-0.12	Low	.28	.64		
	36-38	---	---	0.20-2.00	---	---	---	---		
LrD:										
Lordstown-------	0-12	8-18	1.10-1.40	0.60-2.00	0.18-0.21	Low	.28	.37	2	5
	12-24	8-18	1.20-1.50	0.60-2.00	0.17-0.20	Low	.28	.55		
	24-36	5-18	1.20-1.50	2.00-6.00	0.08-0.12	Low	.28	.64		
	36-38	---	---	0.20-2.00	---	---	---	---		
LrE:										
Lordstown-------	0-4	8-18	1.10-1.40	0.60-2.00	0.13-0.20	Low	.28	.37	2	5
	4-23	8-18	1.20-1.50	0.60-2.00	0.10-0.16	Low	.28	.55		
	23-27	5-18	1.20-1.50	0.60-2.00	0.05-0.14	Low	.28	.64		
	27-31	---	---	0.20-2.00	---	---	---	---		
LrF:										
Lordstown-------	0-4	8-18	1.10-1.40	0.60-2.00	0.13-0.20	Low	.28	.37	2	5
	4-23	8-18	1.20-1.50	0.60-2.00	0.10-0.16	Low	.28	.55		
	23-27	5-18	1.20-1.50	0.60-2.00	0.05-0.14	Low	.28	.64		
	27-31	---	---	0.20-2.00	---	---	---	---		
LtE:										
Lordstown-------	0-12	8-18	1.10-1.40	0.60-2.00	0.18-0.21	Low	.28	.37	2	5
	12-24	8-18	1.20-1.50	0.60-2.00	0.17-0.20	Low	.28	.55		
	24-36	5-18	1.20-1.50	2.00-6.00	0.08-0.12	Low	.28	.64		
	36-38	---	---	0.20-2.00	---	---	---	---		
Loudonville-----	0-14	13-22	1.30-1.50	0.60-2.00	0.18-0.21	Low	.32	.37	2	5
	14-26	20-34	1.35-1.60	0.60-2.00	0.16-0.19	Moderate	.32	.37		
	26-38	12-27	1.30-1.50	2.00-6.00	0.08-0.12	Low	.32	.64		
	38-40	---	---	0.00-0.20	---	---	---	---		
LtF:										
Lordstown-------	0-12	8-18	1.10-1.40	0.60-2.00	0.18-0.21	Low	.28	.37	2	5
	12-24	8-18	1.20-1.50	0.60-2.00	0.17-0.20	Low	.28	.55		
	24-36	5-18	1.20-1.50	2.00-6.00	0.08-0.12	Low	.28	.64		
	36-38	---	---	0.20-2.00	---	---	---	---		
Loudonville-----	0-14	13-22	1.30-1.50	0.60-2.00	0.18-0.21	Low	.32	.37	2	5
	14-26	20-34	1.35-1.60	0.60-2.00	0.16-0.19	Moderate	.32	.37		
	26-38	12-27	1.30-1.50	2.00-6.00	0.08-0.12	Low	.32	.64		
	38-40	---	---	0.00-0.20	---	---	---	---		
LvB:										
Loudonville-----	0-14	13-22	1.30-1.50	0.60-2.00	0.18-0.21	Low	.32	.37	2	5
	14-26	20-34	1.35-1.60	0.60-2.00	0.16-0.19	Moderate	.32	.37		
	26-38	12-27	1.30-1.50	2.00-6.00	0.08-0.12	Low	.32	.64		
	38-40	---	---	0.00-0.20	---	---	---	---		
LvC:										
Loudonville-----	0-14	13-22	1.30-1.50	0.60-2.00	0.18-0.21	Low	.32	.37	2	5
	14-26	20-34	1.35-1.60	0.60-2.00	0.16-0.19	Moderate	.32	.37		
	26-38	12-27	1.30-1.50	2.00-6.00	0.08-0.12	Low	.32	.64		
	38-40	---	---	0.00-0.20	---	---	---	---		
LvD:										
Loudonville-----	0-14	13-22	1.30-1.50	0.60-2.00	0.18-0.21	Low	.32	.37	2	5
	14-26	20-34	1.35-1.60	0.60-2.00	0.16-0.19	Moderate	.32	.37		
	26-38	12-27	1.30-1.50	2.00-6.00	0.08-0.12	Low	.32	.64		
	38-40	---	---	0.00-0.20	---	---	---	---		

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Erosion factors Kw	Kf	T	Wind erodi- bility group
	In	Pct	g/cc	In/hr	In/in					
Ly:										
Luray----------	0-11	27-40	1.30-1.55	0.20-0.60	0.17-0.20	Moderate	.32	.32	5	6
	11-42	25-35	1.45-1.65	0.20-0.60	0.16-0.19	High	.32	.32		
	42-60	15-30	1.45-1.60	0.60-2.00	0.17-0.20	Moderate	.32	.32		
LzB:										
Lykens----------	0-8	14-27	1.30-1.50	0.60-2.00	0.16-0.20	Low	.37	.37	5	6
	8-22	24-35	1.40-1.65	0.20-2.00	0.12-0.16	Moderate	.37	.37		
	22-29	12-35	1.40-1.60	0.60-2.00	0.11-0.15	Low	.37	.49		
	29-75	24-32	1.60-1.80	0.06-0.60	0.06-0.10	Low	.37	.43		
MeB:										
Mentor----------	0-14	16-24	1.36-1.50	0.60-2.00	0.18-0.21	Low	.37	.37	5	5
	14-36	16-35	1.30-1.60	0.60-2.00	0.17-0.20	Moderate	.37	.37		
	36-50	13-30	1.40-1.60	0.60-2.00	0.17-0.20	Low	.37	.37		
	50-60	13-30	1.20-1.50	0.60-2.00	0.11-0.14	Low	.37	.37		
MeC:										
Mentor----------	0-14	16-24	1.36-1.50	0.60-2.00	0.18-0.21	Low	.37	.37	5	5
	14-36	16-35	1.30-1.60	0.60-2.00	0.17-0.20	Moderate	.37	.37		
	36-50	13-30	1.40-1.60	0.60-2.00	0.17-0.20	Low	.37	.37		
	50-60	13-30	1.20-1.50	0.60-2.00	0.11-0.14	Low	.37	.37		
Op:										
Olmsted---------	0-10	27-35	1.35-1.55	0.60-2.00	0.14-0.18	Low	.24	.24	5	6
	10-40	18-27	1.25-1.60	0.60-6.00	0.10-0.14	Low	.24	.28		
	40-60	8-30	1.25-1.60	2.00-6.00	0.06-0.14	Low	.24	.37		
Or:										
Orrville Variant	0-14	7-27	1.20-1.40	6.00-20.00	0.14-0.18	Low	.32	.32	2	5
	14-38	7-27	1.20-1.40	6.00-20.00	0.04-0.06	Low	.32	.64		
	38-40	---	---	0.00-2.00	---	---	---	---		
Pa:										
Pewamo----------	0-11	22-27	1.35-1.55	0.20-0.60	0.18-0.21	Moderate	.28	.28	5	6
	11-41	35-50	1.40-1.70	0.20-0.60	0.16-0.19	High	.32	.32		
	41-60	30-40	1.50-1.70	0.20-0.60	0.15-0.18	Moderate	.37	.37		
Pc:										
Pewamo----------	0-11	22-27	1.35-1.55	0.20-0.60	0.18-0.21	Moderate	.28	.28	5	6
	11-41	35-50	1.40-1.70	0.20-0.60	0.16-0.19	High	.32	.32		
	41-60	30-40	1.50-1.70	0.20-0.60	0.15-0.18	Moderate	.37	.37		
Pg:										
Pits, gravel----	---	---	---	---	---	---	---	---	-	---
Pm:										
Pewamo----------	0-11	27-40	1.35-1.55	0.20-0.60	0.18-0.21	Moderate	.28	.28	5	6
	11-41	35-50	1.40-1.70	0.20-0.60	0.16-0.19	High	.32	.32		
	41-60	30-40	1.50-1.70	0.20-0.60	0.15-0.18	Moderate	.37	.37		
ReA:										
Ravenna---------	0-16	15-24	1.30-1.50	0.60-2.00	0.18-0.21	Low	.37	.43	4	6
	16-23	18-27	1.45-1.75	0.60-2.00	0.17-0.20	Moderate	.37	.43		
	23-50	16-27	1.60-1.90	0.06-0.20	0.07-0.10	Moderate	.37	.55		
	50-60	15-27	1.55-1.90	0.60-2.00	0.07-0.10	Low	.37	.55		
ReB:										
Ravenna---------	0-16	15-24	1.30-1.50	0.60-2.00	0.18-0.21	Low	.37	.43	4	6
	16-23	18-27	1.45-1.75	0.60-2.00	0.17-0.20	Moderate	.37	.43		
	23-50	16-27	1.60-1.90	0.06-0.20	0.07-0.10	Moderate	.37	.55		
	50-60	15-27	1.55-1.90	0.60-2.00	0.07-0.10	Low	.37	.55		

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Erosion factors Kw	Kf	T	Wind erodi- bility group
	In	Pct	g/cc	In/hr	In/in					
RsB:										
Rittman---------	0-13	11-27	1.30-1.50	0.60-2.00	0.18-0.21	Low	.43	.43	4	6
	13-18	27-35	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.43	.49		
	18-42	20-32	1.60-1.85	0.06-0.20	0.07-0.09	Moderate	.43	.55		
	42-60	20-30	1.55-1.85	0.20-0.60	0.07-0.09	Moderate	.43	.55		
RsB2:										
Rittman---------	0-13	11-27	1.30-1.50	0.60-2.00	0.18-0.21	Low	.43	.43	4	6
	13-18	27-35	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.43	.49		
	18-42	20-32	1.60-1.85	0.06-0.20	0.07-0.09	Moderate	.43	.55		
	42-60	20-30	1.55-1.85	0.20-0.60	0.07-0.09	Moderate	.43	.55		
RsC:										
Rittman---------	0-13	11-27	1.30-1.50	0.60-2.00	0.18-0.21	Low	.43	.43	4	6
	13-18	27-35	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.43	.49		
	18-42	20-32	1.60-1.85	0.06-0.20	0.07-0.09	Moderate	.43	.55		
	42-60	20-30	1.55-1.85	0.20-0.60	0.07-0.09	Moderate	.43	.55		
RsC2:										
Rittman---------	0-13	11-27	1.30-1.50	0.60-2.00	0.18-0.21	Low	.43	.43	4	6
	13-18	27-35	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.43	.49		
	18-42	20-32	1.60-1.85	0.06-0.20	0.07-0.09	Moderate	.43	.55		
	42-60	20-30	1.55-1.85	0.20-0.60	0.07-0.09	Moderate	.43	.55		
RsD:										
Rittman---------	0-13	11-27	1.30-1.50	0.60-2.00	0.18-0.21	Low	.43	.43	4	6
	13-18	27-35	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.43	.49		
	18-42	20-32	1.60-1.85	0.06-0.20	0.07-0.09	Moderate	.43	.55		
	42-60	20-30	1.55-1.85	0.20-0.60	0.07-0.09	Moderate	.43	.55		
RsD2:										
Rittman---------	0-13	11-27	1.30-1.50	0.60-2.00	0.18-0.21	Low	.43	.43	4	6
	13-18	27-35	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.43	.49		
	18-42	20-32	1.60-1.85	0.06-0.20	0.07-0.09	Moderate	.43	.55		
	42-60	20-30	1.55-1.85	0.20-0.60	0.07-0.09	Moderate	.43	.55		
RtC3:										
Rittman---------	0-13	27-32	1.35-1.55	0.60-2.00	0.18-0.21	Low	.43	.43	4	6
	13-18	27-35	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.43	.49		
	18-42	20-32	1.60-1.85	0.06-0.20	0.07-0.09	Moderate	.43	.55		
	42-60	20-30	1.55-1.85	0.20-0.60	0.07-0.09	Moderate	.43	.55		
RtD3:										
Rittman---------	0-13	27-32	1.35-1.55	0.60-2.00	0.18-0.21	Low	.43	.43	4	6
	13-18	27-35	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.43	.49		
	18-42	20-32	1.60-1.85	0.06-0.20	0.07-0.09	Moderate	.43	.55		
	42-60	20-30	1.55-1.85	0.20-0.60	0.07-0.09	Moderate	.43	.55		
SaC:										
Schaffenaker----	0-4	1-3	1.20-1.30	6.00-20.00	0.05-0.08	Low	.17	.17	2	2
	4-10	1-3	1.30-1.40	6.00-20.00	0.05-0.08	Low	.17	.20		
	10-20	1-3	1.40-1.50	6.00-20.00	0.05-0.08	Low	.17	.28		
	20-28	1-3	1.40-1.50	6.00-20.00	0.05-0.08	Low	.17	.24		
	28-30	---	---	0.00-0.20	---	---	---	---		
SaD:										
Schaffenaker----	0-4	1-3	1.20-1.30	6.00-20.00	0.05-0.08	Low	.17	.17	2	2
	4-10	1-3	1.30-1.40	6.00-20.00	0.05-0.08	Low	.17	.20		
	10-20	1-3	1.40-1.50	6.00-20.00	0.05-0.08	Low	.17	.28		
	20-28	1-3	1.40-1.50	6.00-20.00	0.05-0.08	Low	.17	.24		
	28-30	---	---	0.00-0.20	---	---	---	---		

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Erosion factors Kw	Kf	T	Wind erodi- bility group
	In	Pct	g/cc	In/hr	In/in					
SaE:										
Schaffenaker----	0-4	1-3	1.20-1.30	6.00-20.00	0.05-0.08	Low	.17	.17	2	2
	4-10	1-3	1.30-1.40	6.00-20.00	0.05-0.08	Low	.17	.20		
	10-20	1-3	1.40-1.50	6.00-20.00	0.05-0.08	Low	.17	.28		
	20-28	1-3	1.40-1.50	6.00-20.00	0.05-0.08	Low	.17	.24		
	28-30	---	---	0.00-0.20	---	---	---	---		
SbE:										
Schaffenaker----	0-14	1-3	1.20-1.30	6.00-20.00	0.04-0.09	Low	.17	.17	2	2
	14-28	1-3	1.40-1.50	6.00-20.00	0.04-0.09	Low	.17	.28		
	28-32	---	---	0.00-0.20	---	---	---	---		
Se:										
Sebring---------	0-12	18-27	1.30-1.45	0.60-2.00	0.18-0.21	Low	.37	.37	5	6
	12-20	22-35	1.45-1.65	0.20-0.60	0.16-0.19	Moderate	.37	.37		
	20-37	22-35	1.45-1.65	0.20-0.60	0.16-0.19	Moderate	.37	.37		
	37-60	15-30	1.40-1.60	0.60-2.00	0.17-0.20	Low	.37	.37		
Sh:										
Shoals----------	0-16	18-27	1.30-1.50	0.60-2.00	0.18-0.21	Low	.24	.24	5	6
	16-42	18-33	1.35-1.55	0.60-2.00	0.17-0.20	Moderate	.37	.37		
	42-60	12-25	1.35-1.60	0.60-2.00	0.16-0.19	Low	.37	.43		
Sk:										
Shoals Variant--	0-10	7-15	1.20-1.50	6.00-20.00	0.14-0.18	Low	.32	.37	5	5
	10-40	0-5	1.20-1.40	6.00-20.00	0.03-0.05	Low	.10	.28		
	40-60	0-5	1.20-1.40	6.00-20.00	0.02-0.05	Low	.10	.24		
SmA:										
Sleeth----------	0-10	11-22	1.30-1.45	0.60-2.00	0.20-0.24	Low	.32	.32	4	5
	10-60	20-35	1.45-1.60	0.60-2.00	0.18-0.20	Moderate	.32	.37		
	60-80	3-28	1.50-1.70	0.60-6.00	0.13-0.18	Low	.32	.49		
So:										
Sloan----------	0-19	27-33	1.25-1.50	0.20-0.60	0.17-0.20	Moderate	.28	.28	5	6
	19-30	22-35	1.25-1.55	0.20-0.60	0.16-0.19	Moderate	.37	.37		
	30-60	10-30	1.20-1.50	0.60-2.00	0.17-0.20	Moderate	.37	.43		
TmA:										
Tiro----------	0-8	14-27	1.30-1.50	0.60-2.00	0.18-0.23	Low	.37	.37	5	6
	8-25	18-35	1.40-1.65	0.20-0.60	0.17-0.20	Moderate	.37	.37		
	25-32	12-28	1.40-1.60	0.20-0.60	0.17-0.20	Moderate	.37	.43		
	32-60	24-35	1.60-1.80	0.20-0.60	0.15-0.18	Moderate	.37	.43		
TmB:										
Tiro----------	0-8	14-27	1.30-1.50	0.60-2.00	0.18-0.23	Low	.37	.37	5	6
	8-25	18-35	1.40-1.65	0.20-0.60	0.17-0.20	Moderate	.37	.37		
	25-32	12-28	1.40-1.60	0.20-0.60	0.17-0.20	Moderate	.37	.43		
	32-60	24-35	1.60-1.80	0.20-0.60	0.15-0.18	Moderate	.37	.43		
TvB:										
Titusville------	0-11	13-25	1.30-1.50	0.60-2.00	0.18-0.21	Low	.37	.37	4	5
	11-21	20-35	1.40-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.37		
	21-45	20-30	1.60-1.88	0.20-0.60	0.09-0.12	Low	.37	.49		
	45-60	18-27	1.55-1.82	0.60-2.00	0.09-0.12	Low	.37	.49		
	60-81	20-28	1.55-1.82	0.20-2.00	0.06-0.10	Low	.37	.55		
TvC:										
Titusville------	0-11	13-25	1.30-1.50	0.60-2.00	0.18-0.21	Low	.37	.37	4	5
	11-21	20-35	1.40-1.70	0.20-0.60	0.16-0.19	Moderate	.37	.37		
	21-45	20-30	1.60-1.88	0.20-0.60	0.09-0.12	Low	.37	.49		
	45-60	18-27	1.55-1.82	0.60-2.00	0.09-0.12	Low	.37	.49		
	60-81	20-28	1.55-1.82	0.20-2.00	0.06-0.10	Low	.37	.55		

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Erosion factors Kw	Kf	T	Wind erodi- bility group
	In	Pct	g/cc	In/hr	In/in					
Uc:										
Udorthents------	---	---	---	---	---	---	---	---	-	---
Ud:										
Udorthents------	---	---	---	---	---	---	---	---	-	---
Ur:										
Urban land------	---	---	---	---	---	---	---	---	-	---
WaA:										
Wadsworth-------	0-13	13-27	1.30-1.50	0.60-2.00	0.18-0.21	Low	.43	.43	4	6
	13-20	25-35	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.43	.43		
	20-38	22-32	1.60-1.85	0.01-0.06	0.08-0.11	Moderate	.43	.55		
	38-60	15-32	1.55-1.85	0.20-0.60	0.10-0.13	Low	.43	.55		
WaB:										
Wadsworth-------	0-13	13-27	1.30-1.50	0.60-2.00	0.18-0.21	Low	.43	.43	4	6
	13-20	25-35	1.45-1.70	0.20-0.60	0.16-0.19	Moderate	.43	.43		
	20-38	22-32	1.60-1.85	0.01-0.06	0.08-0.11	Moderate	.43	.55		
	38-60	15-32	1.55-1.85	0.20-0.60	0.10-0.13	Low	.43	.55		
Wc:										
Wallkill--------	0-24	12-25	1.30-1.45	0.60-2.00	0.18-0.23	Low	.37	.37	5	6
	24-50	0-0	0.35-0.55	6.00-20.00	0.23-0.25	Moderate	---	---		
	50-60	15-35	1.45-1.60	0.60-2.00	0.17-0.20	Moderate	.32	.32		
WeD:										
Westmoreland----	0-3	15-30	1.20-1.40	0.60-2.00	0.16-0.20	Low	.37	.37	3	6
	3-24	20-35	1.20-1.50	0.60-2.00	0.12-0.18	Low	.28	.32		
	24-48	18-35	1.20-1.50	0.60-2.00	0.06-0.10	Low	.17	.20		
	48-50	---	---	0.00-2.00	---	---	---	---		
WhA:										
Wheeling--------	0-18	12-20	1.20-1.40	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	18-28	18-30	1.30-1.50	0.60-2.00	0.16-0.19	Moderate	.32	.43		
	28-36	18-30	1.30-1.50	0.60-2.00	0.10-0.12	Low	.32	.43		
	36-60	8-15	1.30-1.50	6.00-20.00	0.07-0.10	Low	.20	.64		
WhB:										
Wheeling--------	0-18	12-20	1.20-1.40	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	18-28	18-30	1.30-1.50	0.60-2.00	0.16-0.19	Moderate	.32	.43		
	28-36	18-30	1.30-1.50	0.60-2.00	0.10-0.12	Low	.32	.43		
	36-60	8-15	1.30-1.50	6.00-20.00	0.07-0.10	Low	.20	.64		
WhC:										
Wheeling--------	0-18	12-20	1.20-1.40	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	18-28	18-30	1.30-1.50	0.60-2.00	0.16-0.19	Moderate	.32	.43		
	28-36	18-30	1.30-1.50	0.60-2.00	0.10-0.12	Low	.32	.43		
	36-60	8-15	1.30-1.50	6.00-20.00	0.07-0.10	Low	.20	.64		
WmD:										
Mentor----------	0-14	16-24	1.36-1.50	0.60-2.00	0.18-0.21	Low	.37	.37	5	5
	14-36	16-35	1.30-1.60	0.60-2.00	0.17-0.20	Moderate	.37	.37		
	36-50	13-30	1.40-1.60	0.60-2.00	0.17-0.20	Low	.37	.37		
	50-60	13-30	1.20-1.50	0.60-2.00	0.11-0.14	Low	.37	.37		
Wheeling--------	0-18	12-20	1.20-1.40	0.60-2.00	0.17-0.20	Low	.37	.37	5	5
	18-28	18-30	1.30-1.50	0.60-2.00	0.16-0.19	Moderate	.32	.43		
	28-36	18-30	1.30-1.50	0.60-2.00	0.10-0.12	Low	.32	.43		
	36-60	8-15	1.30-1.50	6.00-20.00	0.07-0.10	Low	.20	.64		
WsB:										
Wooster---------	0-12	11-20	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.43	4	5
	12-24	18-24	1.35-1.65	0.60-2.00	0.16-0.19	Moderate	.37	.43		
	24-40	18-28	1.55-1.75	0.20-0.60	0.08-0.12	Low	.37	.49		
	40-60	12-22	1.40-1.65	0.60-2.00	0.10-0.14	Low	.37	.55		

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Erosion factors Kw	Kf	T	Wind erodi- bility group
	In	Pct	g/cc	In/hr	In/in					
WsB2:										
Wooster---------	0-12	11-20	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.43	4	5
	12-24	18-24	1.35-1.65	0.60-2.00	0.16-0.19	Moderate	.37	.43		
	24-40	18-28	1.55-1.75	0.20-0.60	0.08-0.12	Low	.37	.49		
	40-60	12-22	1.40-1.65	0.60-2.00	0.10-0.14	Low	.37	.55		
WsC:										
Wooster---------	0-12	11-20	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.43	4	5
	12-24	18-24	1.35-1.65	0.60-2.00	0.16-0.19	Moderate	.37	.43		
	24-40	18-28	1.55-1.75	0.20-0.60	0.08-0.12	Low	.37	.49		
	40-60	12-22	1.40-1.65	0.60-2.00	0.10-0.14	Low	.37	.55		
WsC2:										
Wooster---------	0-12	11-20	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.43	4	5
	12-24	18-24	1.35-1.65	0.60-2.00	0.16-0.19	Moderate	.37	.43		
	24-40	18-28	1.55-1.75	0.20-0.60	0.08-0.12	Low	.37	.49		
	40-60	12-22	1.40-1.65	0.60-2.00	0.10-0.14	Low	.37	.55		
WsD:										
Wooster---------	0-12	11-20	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.43	4	5
	12-24	18-24	1.35-1.65	0.60-2.00	0.16-0.19	Moderate	.37	.43		
	24-40	18-28	1.55-1.75	0.20-0.60	0.08-0.12	Low	.37	.49		
	40-60	12-22	1.40-1.65	0.60-2.00	0.10-0.14	Low	.37	.55		
WsD2:										
Wooster---------	0-12	11-20	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.43	4	5
	12-24	18-24	1.35-1.65	0.60-2.00	0.16-0.19	Moderate	.37	.43		
	24-40	18-28	1.55-1.75	0.20-0.60	0.08-0.12	Low	.37	.49		
	40-60	12-22	1.40-1.65	0.60-2.00	0.10-0.14	Low	.37	.55		
WsD3:										
Wooster---------	0-12	11-20	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.43	4	5
	12-24	18-24	1.35-1.65	0.60-2.00	0.16-0.19	Moderate	.37	.43		
	24-40	18-28	1.55-1.75	0.20-0.60	0.08-0.12	Low	.37	.49		
	40-60	12-22	1.40-1.65	0.60-2.00	0.10-0.14	Low	.37	.55		
WsE:										
Wooster---------	0-12	11-20	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.43	4	5
	12-24	18-24	1.35-1.65	0.60-2.00	0.16-0.19	Moderate	.37	.43		
	24-40	18-28	1.55-1.75	0.20-0.60	0.08-0.12	Low	.37	.49		
	40-60	12-22	1.40-1.65	0.60-2.00	0.10-0.14	Low	.37	.55		
WsE2:										
Wooster---------	0-5	11-20	1.30-1.50	0.60-2.00	0.18-0.23	Low	.37	.43	4	5
	5-27	18-24	1.35-1.65	0.60-2.00	0.14-0.18	Low	.37	.43		
	27-40	18-28	1.55-1.75	0.20-0.60	0.08-0.12	Low	.37	.49		
	40-80	12-22	1.40-1.65	0.20-2.00	0.08-0.14	Low	.37	.55		
WsF:										
Wooster---------	0-12	11-20	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.43	4	5
	12-24	18-24	1.35-1.65	0.60-2.00	0.16-0.19	Moderate	.37	.43		
	24-40	18-28	1.55-1.75	0.20-0.60	0.08-0.12	Low	.37	.49		
	40-60	12-22	1.40-1.65	0.60-2.00	0.10-0.14	Low	.37	.55		
WtB:										
Wooster---------	0-12	11-20	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.43	4	5
	12-24	18-24	1.35-1.65	0.60-2.00	0.16-0.19	Moderate	.37	.43		
	24-40	18-28	1.55-1.75	0.20-0.60	0.08-0.12	Low	.37	.49		
	40-60	12-22	1.40-1.65	0.60-2.00	0.10-0.14	Low	.37	.55		
Chili----------	0-10	5-15	1.30-1.50	2.00-6.00	0.14-0.18	Low	.32	.37	4	5
	10-28	18-27	1.25-1.60	2.00-6.00	0.08-0.12	Low	.32	.55		
	28-44	5-18	1.25-1.60	6.00-20.00	0.03-0.06	Low	.17	.37		
	44-60	1-10	1.25-1.50	6.00-20.00	0.03-0.06	Low	.10	.32		

TABLE 29.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Shrink- swell potential	Erosion factors Kw	Kf	T	Wind erodi- bility group
	In	Pct	g/cc	In/hr	In/in					
WtC:										
Wooster---------	0-12	11-20	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.43	4	5
	12-24	18-24	1.35-1.65	0.60-2.00	0.16-0.19	Moderate	.37	.43		
	24-40	18-28	1.55-1.75	0.20-0.60	0.08-0.12	Low	.37	.49		
	40-60	12-22	1.40-1.65	0.60-2.00	0.10-0.14	Low	.37	.55		
Chili----------	0-10	5-15	1.30-1.50	2.00-6.00	0.14-0.18	Low	.32	.37	4	5
	10-28	18-27	1.25-1.60	2.00-6.00	0.08-0.12	Low	.32	.55		
	28-44	5-18	1.25-1.60	6.00-20.00	0.03-0.06	Low	.17	.37		
	44-60	1-10	1.25-1.50	6.00-20.00	0.03-0.06	Low	.10	.32		
WvE3:										
Wooster---------	0-12	11-20	1.30-1.50	0.60-2.00	0.17-0.20	Low	.37	.43	4	5
	12-24	18-24	1.35-1.65	0.60-2.00	0.16-0.19	Moderate	.37	.43		
	24-40	18-28	1.55-1.75	0.20-0.60	0.08-0.12	Low	.37	.49		
	40-60	12-22	1.40-1.65	0.60-2.00	0.10-0.14	Low	.37	.55		

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS

(Absence of an entry indicates that data were not estimated. See text on page 250 for additional information.)

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
AcD2:					
Alexandria------	0-5	5.1-7.3	0.5-2.0	12-24	---
	5-27	4.5-7.8	0.5-1.0	14-26	---
	27-60	7.4-8.4	0.1-0.3	9.0-20	8-22
AdB:					
Alexandria------	0-5	5.1-6.5	1.0-3.0	8.0-20	---
	5-34	5.1-6.5	0.5-1.0	14-26	---
	34-60	6.1-8.0	0.1-0.3	9.0-20	8-22
AdC:					
Alexandria------	0-5	5.1-6.5	1.0-3.0	8.0-20	---
	5-34	5.1-6.5	0.5-1.0	14-26	---
	34-60	6.1-8.0	0.1-0.3	9.0-20	8-22
AdC2:					
Alexandria------	0-5	5.1-6.5	1.0-3.0	8.0-20	---
	5-34	5.1-6.5	0.5-1.0	14-26	---
	34-60	6.1-8.0	0.1-0.3	9.0-20	8-22
AdD:					
Alexandria------	0-5	5.1-6.5	1.0-3.0	8.0-20	---
	5-34	5.1-6.5	0.5-1.0	14-26	---
	34-60	6.1-8.0	0.1-0.3	9.0-20	8-22
AdD2:					
Alexandria------	0-5	5.1-6.5	1.0-3.0	8.0-20	---
	5-34	5.1-6.5	0.5-1.0	14-26	---
	34-60	6.1-8.0	0.1-0.3	9.0-20	8-22
AdE:					
Alexandria------	0-5	5.1-6.5	1.0-3.0	8.0-20	---
	5-34	5.1-6.5	0.5-1.0	14-26	---
	34-60	6.1-8.0	0.1-0.3	9.0-20	8-22
AdE2:					
Alexandria------	0-5	5.1-6.5	1.0-3.0	8.0-20	---
	5-34	5.1-6.5	0.5-1.0	14-26	---
	34-60	6.1-8.0	0.1-0.3	9.0-20	8-22
AdF:					
Alexandria------	0-5	5.1-6.5	1.0-3.0	8.0-20	---
	5-34	5.1-6.5	0.5-1.0	14-26	---
	34-60	6.1-8.0	0.1-0.3	9.0-20	8-22
AeD3:					
Alexandria------	0-5	5.1-6.5	0.5-2.0	12-24	---
	5-34	5.1-6.5	0.5-1.0	14-26	---
	34-60	6.1-8.0	0.1-0.3	9.0-20	8-22
Ag:					
Algiers---------	0-19	6.0-7.3	2.0-4.0	10-24	---
	19-30	6.0-7.3	0.5-1.0	10-22	---
	30-47	6.0-7.3	0.5-1.0	10-22	0-5
	47-60	6.6-7.8	0.1-0.5	20-80	0-10
BeB:					
Belmore---------	0-9	6.5-7.5	1.0-3.0	7.0-18	---
	9-20	6.1-7.3	0.5-1.0	8.0-18	---
	20-44	6.5-7.5	0.5-1.0	8.0-18	0-5
	44-60	6.6-8.0	0.5-1.0	3.0-10	0-35

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
BeC:					
Belmore---------	0-9	6.5-7.5	1.0-3.0	7.0-18	---
	9-20	6.1-7.3	0.5-1.0	8.0-18	---
	20-44	6.5-7.5	0.5-1.0	8.0-18	0-5
	44-60	6.6-8.0	0.5-1.0	3.0-10	0-35
BeD:					
Belmore---------	0-9	6.5-7.5	1.0-3.0	7.0-18	---
	9-20	6.1-7.3	0.5-1.0	8.0-18	---
	20-44	6.5-7.5	0.5-1.0	8.0-18	0-5
	44-60	6.6-8.0	0.5-1.0	3.0-10	0-35
BnA:					
Bennington------	0-9	5.8-6.5	2.0-4.0	12-20	---
	9-36	5.0-7.5	0.5-1.0	20-26	0-10
	36-60	7.3-8.2	0.0-0.5	9.0-20	10-20
BnB:					
Bennington------	0-9	5.8-6.5	2.0-4.0	12-20	---
	9-36	5.0-7.5	0.5-1.0	20-26	0-10
	36-60	7.3-8.2	0.0-0.5	9.0-20	10-20
BnB2:					
Bennington------	0-9	5.8-6.5	1.0-4.0	8.0-20	---
	9-36	5.0-7.5	0.5-1.0	20-26	0-10
	36-60	7.3-8.2	0.0-0.5	9.0-20	10-20
BpB:					
Bennington------	0-9	5.8-6.5	2.0-4.0	12-20	---
	9-36	5.0-7.5	0.5-1.0	20-26	0-10
	36-60	7.3-8.2	0.0-0.5	9.0-20	10-20
Fitchville------	0-13	5.0-6.5	2.0-3.0	14-22	---
	13-42	5.0-6.5	0.5-1.0	10-25	---
	42-60	6.0-7.5	0.1-0.5	0.0-0.0	10-25
BrB:					
Berks----------	0-11	5.1-6.0	2.0-4.0	5.0-15	---
	11-28	5.1-6.0	0.0-0.5	5.0-10	---
	28-38	---	---	---	---
	38-40	---	---	---	---
BrC:					
Berks----------	0-11	5.1-6.0	2.0-4.0	5.0-15	---
	11-28	5.1-6.0	0.0-0.5	5.0-10	---
	28-38	---	---	---	---
	38-40	---	---	---	---
BrD:					
Berks----------	0-11	5.1-6.0	2.0-4.0	5.0-15	---
	11-28	5.1-6.0	0.0-0.5	5.0-10	---
	28-38	---	---	---	---
	38-40	---	---	---	---
BsF:					
Berks----------	0-11	5.1-6.0	2.0-4.0	5.0-15	---
	11-28	5.1-6.0	0.0-0.5	5.0-10	---
	28-38	---	---	---	---
	38-40	---	---	---	---
Rock outcrop----	---	---	---	---	---
BtA:					
Bogart----------	0-10	5.0-6.5	2.0-3.0	8.0-20	---
	10-34	5.0-6.5	0.5-1.0	4.0-15	---
	34-60	5.5-7.0	0.1-0.3	4.0-10	0-10

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
BtB:					
Bogart----------	0-10	5.0-6.5	2.0-3.0	8.0-20	---
	10-34	5.0-6.5	0.5-1.0	4.0-15	---
	34-60	5.5-7.0	0.1-0.3	4.0-10	0-10
BvA:					
Bogart----------	0-10	5.0-6.5	2.0-3.0	8.0-20	---
	10-34	5.0-6.5	0.5-1.0	4.0-15	---
	34-60	5.5-7.0	0.1-0.3	4.0-10	0-10
BvB:					
Bogart----------	0-10	5.0-6.5	2.0-3.0	8.0-20	---
	10-34	5.0-6.5	0.5-1.0	4.0-15	---
	34-60	5.5-7.0	0.1-0.3	4.0-10	0-10
BwC:					
Brownsville-----	0-8	3.6-6.5	1.0-3.0	8.0-20	0
	8-24	3.6-5.5	0.3-1.0	4.0-10	0
	24-48	3.6-6.0	0.1-0.3	4.0-10	0
	48-52	---	0.0-0.0	0.0-0.0	0
BwD:					
Brownsville-----	0-8	3.6-6.5	1.0-3.0	8.0-20	0
	8-24	3.6-5.5	0.3-1.0	4.0-10	0
	24-48	3.6-6.0	0.1-0.3	4.0-10	0
	48-52	---	0.0-0.0	0.0-0.0	0
BxE:					
Brownsville-----	0-2	3.6-6.5	1.0-3.0	8.0-20	0
	2-34	3.6-5.5	0.3-1.0	4.0-10	0
	34-48	3.6-6.0	0.1-0.3	4.0-10	0
	48-50	---	0.0-0.0	0.0-0.0	0
Westmoreland----	0-3	4.5-6.0	1.0-4.0	15-25	0
	3-34	4.5-6.0	0.0-0.5	10-20	0
	34-48	5.1-6.0	0.0-0.5	10-20	0
	48-50	---	---	---	---
CdB:					
Canfield--------	0-10	5.0-6.0	1.0-3.0	10-18	---
	10-22	4.5-5.5	0.5-1.0	10-16	---
	22-45	4.5-6.0	0.2-0.5	10-16	---
	45-60	6.5-7.5	0.1-0.3	0.0-0.0	0-6
CdB2:					
Canfield--------	0-10	5.0-6.0	1.0-3.0	10-18	---
	10-22	4.5-5.5	0.5-1.0	10-16	---
	22-45	4.5-6.0	0.2-0.5	10-16	---
	45-60	6.5-7.5	0.1-0.3	0.0-0.0	0-6
CdC:					
Canfield--------	0-10	5.0-6.0	1.0-3.0	10-18	---
	10-22	4.5-5.5	0.5-1.0	10-16	---
	22-45	4.5-6.0	0.2-0.5	10-16	---
	45-60	6.5-7.5	0.1-0.3	0.0-0.0	0-6
CdC2:					
Canfield--------	0-10	5.0-6.0	1.0-3.0	10-18	---
	10-22	4.5-5.5	0.5-1.0	10-16	---
	22-45	4.5-6.0	0.2-0.5	10-16	---
	45-60	6.5-7.5	0.1-0.3	0.0-0.0	0-6
CgB:					
Cardington------	0-15	4.5-6.0	1.0-3.0	12-18	---
	15-34	4.5-6.0	0.5-1.0	18-24	---
	34-60	6.5-8.0	0.1-0.3	9.0-20	10-20

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
CgB2:					
Cardington------	0-15	4.5-6.0	1.0-3.0	12-18	---
	15-34	4.5-6.0	0.5-1.0	18-24	---
	34-60	6.5-8.0	0.1-0.3	9.0-20	10-20
CgC:					
Cardington------	0-15	4.5-6.0	1.0-3.0	12-18	---
	15-34	4.5-6.0	0.5-1.0	18-24	---
	34-60	6.5-8.0	0.1-0.3	9.0-20	10-20
CgC2:					
Cardington------	0-15	4.5-6.0	1.0-3.0	12-18	---
	15-34	4.5-6.0	0.5-1.0	18-24	---
	34-60	6.5-8.0	0.1-0.3	9.0-20	10-20
ChC3:					
Cardington------	0-15	4.5-6.0	0.5-2.0	12-24	---
	15-34	4.5-6.0	0.5-1.0	18-24	---
	34-60	6.5-8.0	0.1-0.3	9.0-20	10-20
Ck:					
Carlisle--------	0-60	6.0-8.0	70-99	150-230	---
CmB:					
Chili----------	0-10	4.5-7.3	1.0-3.0	8.0-16	0
	10-52	5.1-6.5	0.5-1.0	8.0-16	0
	52-60	5.1-7.8	0.2-0.5	6.0-16	0
CnB:					
Chili----------	0-10	5.0-6.5	1.0-3.0	8.0-16	0
	10-28	4.5-6.0	0.5-1.0	8.0-16	0
	28-44	5.5-7.0	0.2-0.5	6.0-16	0
	44-60	5.5-7.0	0.1-0.3	6.0-16	0-5
CnC:					
Chili----------	0-10	5.0-6.5	1.0-3.0	8.0-16	0
	10-28	4.5-6.0	0.5-1.0	8.0-16	0
	28-44	5.5-7.0	0.2-0.5	6.0-16	0
	44-60	5.5-7.0	0.1-0.3	6.0-16	0-5
CoD:					
Chili----------	0-10	5.0-6.5	1.0-3.0	5.0-13	---
	10-28	4.5-6.0	0.5-1.0	8.0-16	---
	28-44	5.5-7.0	0.2-0.5	6.0-16	---
	44-60	5.5-7.0	0.1-0.3	2.0-10	0-5
Conotton--------	0-16	5.0-6.5	0.5-3.0	8.0-16	---
	16-44	5.0-6.5	0.5-1.0	3.0-12	---
	44-60	5.0-6.0	0.1-0.5	2.0-10	0-10
CoD3:					
Chili----------	0-10	5.0-6.5	0.5-2.0	3.0-13	---
	10-28	4.5-6.0	0.5-1.0	8.0-16	---
	28-44	5.5-7.0	0.2-0.5	6.0-16	---
	44-60	5.5-7.0	0.1-0.3	2.0-10	0-5
Conotton--------	0-16	5.0-6.5	0.5-2.0	5.0-16	---
	16-44	5.0-6.5	0.5-1.0	3.0-12	---
	44-60	5.0-6.0	0.1-0.3	2.0-10	0-10

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
CoE:					
Chili	0-10	5.0-6.5	1.0-3.0	5.0-13	---
	10-28	4.5-6.0	0.5-1.0	8.0-16	---
	28-44	5.5-7.0	0.2-0.5	6.0-16	---
	44-60	5.5-7.0	0.1-0.3	2.0-10	0-5
Conotton	0-16	5.0-6.5	0.5-3.0	8.0-16	---
	16-44	5.0-6.5	0.5-1.0	3.0-12	---
	44-60	5.0-6.0	0.1-0.5	2.0-10	0-10
CoF:					
Chili	0-10	5.0-6.5	1.0-3.0	5.0-13	---
	10-28	4.5-6.0	0.5-1.0	8.0-16	---
	28-44	5.5-7.0	0.2-0.5	6.0-16	---
	44-60	5.5-7.0	0.1-0.3	2.0-10	0-5
Conotton	0-16	5.0-6.5	0.5-3.0	8.0-16	---
	16-44	5.0-6.5	0.5-1.0	3.0-12	---
	44-60	5.0-6.0	0.1-0.5	2.0-10	0-10
Cp:					
Condit	0-6	4.5-6.0	2.0-4.0	10-20	0
	6-44	4.5-7.8	0.5-2.0	10-20	0
	44-60	7.4-8.4	0.0-0.5	10-20	5-20
Cr:					
Condit	0-9	6.0-7.0	2.0-4.0	14-16	---
	9-50	5.5-7.0	0.5-2.0	14-30	---
	50-60	7.0-8.0	0.0-0.5	9.0-22	5-20
Cs:					
Condit	0-9	4.5-7.3	2.0-4.0	5.0-10	0
	9-52	4.5-7.8	0.5-1.0	10-20	0
	52-70	7.4-8.4	0.1-0.3	10-20	1-10
Bennington	0-8	5.1-6.5	2.0-4.0	12-20	0
	8-42	4.5-7.8	0.5-1.0	20-26	0-10
	42-64	7.4-8.4	0.0-0.5	9.0-20	10-20
CtC:					
Conotton	0-16	5.0-6.5	0.5-3.0	8.0-16	---
	16-44	5.0-6.5	0.5-1.0	3.0-12	---
	44-60	5.0-6.0	0.1-0.5	2.0-10	0-16
CvC:					
Coshocton	0-9	3.6-7.3	1.0-3.0	10-18	---
	9-37	3.6-5.5	0.3-1.0	12-22	---
	37-45	4.5-6.0	0.1-0.5	10-22	---
	45-60	---	---	0.0-0.0	---
DmB:					
Digby	0-14	6.5-7.5	2.0-4.0	0.0-20	---
	14-32	6.0-7.5	0.5-1.0	9.0-18	---
	32-60	6.5-7.5	0.1-0.3	3.0-10	10-30
FbA:					
Fitchville	0-6	4.5-7.3	2.0-3.0	14-22	---
	6-46	4.5-7.3	0.5-1.0	10-25	---
	46-60	5.6-7.8	0.1-0.5	0.0-0.0	0-5
FcA:					
Fitchville	0-13	5.0-6.5	2.0-3.0	14-22	---
	13-42	5.0-6.5	0.5-1.0	10-25	---
	42-60	6.0-7.5	0.1-0.5	6.0-19	0-5

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
FcB:					
Fitchville------	0-13	5.0-6.5	2.0-3.0	14-22	---
	13-42	5.0-6.5	0.5-1.0	10-25	---
	42-60	6.0-7.5	0.1-0.5	6.0-19	0-5
FdA:					
Fitchville------	0-13	5.0-6.5	2.0-3.0	14-22	---
	13-42	5.0-6.5	0.5-1.0	10-25	---
	42-60	6.0-7.5	0.1-0.5	6.0-19	0-5
Bennington------	0-9	5.8-6.5	2.0-4.0	12-20	---
	9-36	5.0-7.5	0.5-1.0	20-26	---
	36-60	7.3-8.2	0.0-0.5	9.0-20	10-20
FgA:					
Fitchville Variant--------	0-13	5.0-6.5	2.0-4.0	12-20	---
	13-30	5.0-6.5	0.5-1.0	20-26	---
	30-60	5.0-6.5	0.0-0.5	4.0-10	---
FgB:					
Fitchville Variant--------	0-13	5.0-6.5	2.0-4.0	12-20	---
	13-30	5.0-6.5	0.5-1.0	20-26	---
	30-60	5.0-6.5	0.0-0.5	4.0-10	---
Fr:					
Frenchtown------	0-12	5.0-6.5	2.0-4.0	10-22	---
	12-22	5.0-6.5	0.5-2.0	15-25	---
	22-40	4.5-6.0	0.0-0.5	10-22	---
	40-60	6.0-7.0	0.0-0.5	6.0-19	---
GdB:					
Gilpin----------	0-9	3.6-7.3	0.5-4.0	7.0-24	---
	9-33	3.6-6.5	0.0-0.5	7.0-22	---
	33-37	3.6-6.5	0.0-0.5	7.0-22	---
	37-39	---	---	---	---
GdC:					
Gilpin----------	0-9	3.6-7.3	0.5-4.0	7.0-24	---
	9-33	3.6-6.5	0.0-0.5	7.0-22	---
	33-37	3.6-6.5	0.0-0.5	7.0-22	---
	37-39	---	---	---	---
GfA:					
Glenford--------	0-16	5.0-6.5	1.0-3.0	10-18	0
	16-26	5.0-6.5	0.5-1.0	10-20	0
	26-40	5.0-6.5	0.3-0.5	10-20	0
	40-60	5.5-7.0	0.1-0.3	6.0-18	0-5
GfB:					
Glenford--------	0-16	5.0-6.5	1.0-3.0	10-18	0
	16-26	5.0-6.5	0.5-1.0	10-20	0
	26-40	5.0-6.5	0.3-0.5	10-20	0
	40-60	5.5-7.0	0.1-0.3	6.0-18	0-5
GfC:					
Glenford--------	0-16	5.0-6.5	1.0-3.0	10-18	0
	16-26	5.0-6.5	0.5-1.0	10-20	0
	26-40	5.0-6.5	0.3-0.5	10-20	0
	40-60	5.5-7.0	0.1-0.3	6.0-18	0-5

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
GrB:					
Gresham---------	0-16	5.0-6.0	2.0-4.0	10-23	0
	16-23	5.0-6.0	0.5-1.0	10-20	0
	23-52	5.0-6.0	0.2-0.5	10-20	0
	52-60	5.0-6.5	0.1-0.3	8.0-18	0
HaB:					
Haney----------	0-10	6.0-7.0	1.0-3.0	8.0-18	0
	10-16	6.0-7.0	0.5-1.0	10-18	0
	16-40	5.5-6.5	0.2-0.5	10-18	0
	40-60	6.5-8.0	0.1-0.3	3.0-10	0-30
HfB:					
Hanover---------	0-10	4.5-6.0	1.0-3.0	10-18	---
	10-22	5.0-6.0	0.3-1.0	8.0-18	---
	22-34	4.5-6.0	0.0-0.5	10-20	---
	34-60	4.5-6.0	0.0-0.5	8.0-18	---
HfC:					
Hanover---------	0-10	4.5-6.0	1.0-3.0	10-18	---
	10-22	5.0-6.0	0.3-1.0	8.0-18	---
	22-34	4.5-6.0	0.0-0.5	10-20	---
	34-60	4.5-6.0	0.0-0.5	8.0-18	---
HfC2:					
Hanover---------	0-10	4.5-6.0	1.0-3.0	10-18	---
	10-22	5.0-6.0	0.3-1.0	8.0-18	---
	22-34	4.5-6.0	0.0-0.5	10-20	---
	34-60	4.5-6.0	0.0-0.5	8.0-18	---
HfC3:					
Hanover---------	0-10	4.5-6.0	0.5-2.0	6.0-18	---
	10-22	5.0-6.0	0.3-1.0	8.0-18	---
	22-34	4.5-6.0	0.0-0.5	10-20	---
	34-60	4.5-6.0	0.0-0.5	8.0-18	---
HfD:					
Hanover---------	0-10	4.5-6.0	1.0-3.0	10-18	---
	10-22	5.0-6.0	0.3-1.0	8.0-18	---
	22-34	4.5-6.0	0.0-0.5	10-20	---
	34-60	4.5-6.0	0.0-0.5	8.0-18	---
HfD2:					
Hanover---------	0-10	4.5-6.0	1.0-3.0	10-18	---
	10-22	5.0-6.0	0.3-1.0	8.0-18	---
	22-34	4.5-6.0	0.0-0.5	10-20	---
	34-60	4.5-6.0	0.0-0.5	8.0-18	---
HfE:					
Hanover---------	0-10	4.5-6.0	1.0-3.0	10-18	---
	10-22	5.0-6.0	0.3-1.0	8.0-18	---
	22-34	4.5-6.0	0.0-0.5	10-20	---
	34-60	4.5-6.0	0.0-0.5	8.0-18	---
Ho:					
Holly----------	0-14	5.5-7.0	2.0-5.0	10-24	0
	14-32	5.5-7.0	0.5-2.0	10-18	0
	32-40	6.0-7.5	0.5-1.0	5.0-14	0
	40-60	6.0-7.5	0.0-0.5	5.0-12	0-5
HpB:					
Homewood--------	0-10	5.1-7.3	1.0-3.0	10-20	0
	10-29	4.5-6.0	0.3-1.0	10-20	0
	29-67	4.5-5.5	0.2-0.5	10-20	0
	67-80	4.5-7.8	0.1-0.3	8.0-18	0

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
HpC:					
Homewood--------	0-10	5.1-7.3	1.0-3.0	10-20	0
	10-29	4.5-6.0	0.3-1.0	10-20	0
	29-67	4.5-5.5	0.2-0.5	10-20	0
	67-80	4.5-7.8	0.1-0.3	8.0-18	0
HpD2:					
Homewood--------	0-10	5.1-7.3	1.0-3.0	10-20	0
	10-29	4.5-6.0	0.3-1.0	10-20	0
	29-67	4.5-5.5	0.2-0.5	10-20	0
	67-80	4.5-7.8	0.1-0.3	8.0-18	0
HpE2:					
Homewood--------	0-10	5.1-7.3	1.0-3.0	10-20	0
	10-29	4.5-6.0	0.3-1.0	10-20	0
	29-67	4.5-5.5	0.2-0.5	10-20	0
	67-80	4.5-7.8	0.1-0.3	8.0-18	0
JtA:					
Jimtown---------	0-9	4.5-7.3	2.0-3.0	10-18	0
	9-42	4.5-6.5	0.5-1.0	8.0-15	0
	42-84	5.1-8.4	0.1-0.3	6.0-12	0-10
KbA:					
Kibbie----------	0-9	5.6-7.3	2.0-3.0	5.0-20	0
	9-44	5.6-7.8	0.0-0.5	5.0-20	0-5
	44-60	7.4-8.4	0.0-0.5	1.0-10	10-35
La:					
Landes----------	0-13	6.0-7.3	1.0-2.0	6.0-16	---
	13-27	6.0-7.3	0.0-1.0	3.0-13	0-10
	27-60	6.5-7.5	0.0-1.0	3.0-13	0-20
LfB:					
Latham----------	0-10	4.5-6.0	1.0-3.0	10-20	0
	10-24	4.0-5.0	0.2-1.0	15-30	0
	24-32	4.0-5.0	0.0-0.5	12-25	0
	32-42	---	---	---	---
LfC:					
Latham----------	0-10	4.5-6.0	1.0-3.0	10-20	0
	10-24	4.0-5.0	0.2-1.0	15-30	0
	24-32	4.0-5.0	0.0-0.5	12-25	0
	32-42	---	---	---	---
Lg:					
Lenawee---------	0-9	5.6-6.0	3.0-12	15-30	0
	9-45	6.6-7.8	0.5-2.0	10-25	---
	45-60	7.4-7.8	0.0-0.5	5.0-20	15-25
Lk:					
Linwood---------	0-24	6.0-7.0	40-70	150-230	---
	24-40	6.0-7.0	50-70	150-230	---
	40-60	6.5-7.5	0.0-1.0	2.0-20	0-25
Lo:					
Lobdell---------	0-20	6.0-7.0	0.5-1.0	8.0-15	0
	20-42	6.5-7.5	0.5-1.0	8.0-15	0
	42-60	6.5-7.8	0.1-0.5	6.0-15	0
LrB:					
Lordstown-------	0-12	5.5-6.5	2.0-6.0	15-25	0
	12-24	5.0-6.0	0.5-1.0	5.0-25	0
	24-36	5.0-6.0	0.0-0.5	5.0-15	0
	36-38	---	---	---	---

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
LrC:					
Lordstown-------	0-12	5.5-6.5	2.0-6.0	15-25	0
	12-24	5.0-6.0	0.5-1.0	5.0-25	0
	24-36	5.0-6.0	0.0-0.5	5.0-15	0
	36-38	---	---	---	---
LrD:					
Lordstown-------	0-12	5.5-6.5	2.0-6.0	15-25	0
	12-24	5.0-6.0	0.5-1.0	5.0-25	0
	24-36	5.0-6.0	0.0-0.5	5.0-15	0
	36-38	---	---	---	---
LrE:					
Lordstown-------	0-4	4.5-6.5	2.0-6.0	15-25	0
	4-23	4.5-6.0	0.5-1.0	5.0-25	0
	23-27	5.1-6.0	0.0-0.5	5.0-15	0
	27-31	---	---	---	---
LrF:					
Lordstown-------	0-4	4.5-6.5	2.0-6.0	15-25	0
	4-23	4.5-6.0	0.5-1.0	5.0-25	0
	23-27	5.1-6.0	0.0-0.5	5.0-15	0
	27-31	---	---	---	---
LtE:					
Lordstown-------	0-12	5.5-6.5	2.0-6.0	15-25	0
	12-24	5.0-6.0	0.5-1.0	5.0-25	0
	24-36	5.0-6.0	0.0-0.5	5.0-15	0
	36-38	---	---	---	---
Loudonville-----	0-14	5.0-6.5	1.0-3.0	8.0-18	0
	14-26	5.0-6.0	0.3-1.0	8.0-15	0
	26-38	5.0-6.0	0.3-1.0	7.0-14	0
	38-40	---	---	---	---
LtF:					
Lordstown-------	0-12	5.5-6.5	2.0-6.0	15-25	0
	12-24	5.0-6.0	0.5-1.0	5.0-25	0
	24-36	5.0-6.0	0.0-0.5	5.0-15	0
	36-38	---	---	---	---
Loudonville-----	0-14	5.0-6.5	1.0-3.0	8.0-18	0
	14-26	5.0-6.0	0.3-1.0	8.0-15	0
	26-38	5.0-6.0	0.3-1.0	7.0-14	0
	38-40	---	---	0.0-0.0	---
LvB:					
Loudonville-----	0-14	5.0-6.5	1.0-3.0	8.0-18	0
	14-26	5.0-6.0	0.3-1.0	8.0-15	0
	26-38	5.0-6.0	0.3-1.0	7.0-14	0
	38-40	---	---	---	---
LvC:					
Loudonville-----	0-14	5.0-6.5	1.0-3.0	8.0-18	0
	14-26	5.0-6.0	0.3-1.0	8.0-15	0
	26-38	5.0-6.0	0.3-1.0	7.0-14	0
	38-40	---	---	---	---
LvD:					
Loudonville-----	0-14	5.0-6.5	1.0-3.0	8.0-18	0
	14-26	5.0-6.0	0.3-1.0	8.0-15	0
	26-38	5.0-6.0	0.3-1.0	7.0-14	0
	38-40	---	---	---	---

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
Ly:					
Luray----------	0-11	6.0-7.0	4.0-8.0	20-36	0
	11-42	5.0-6.5	0.5-1.0	12-24	0
	42-60	6.5-8.0	0.1-0.5	8.0-20	0-5
LzB:					
Lykens----------	0-8	5.1-7.3	1.0-3.0	10-20	0
	8-22	4.5-6.0	0.5-1.0	12-20	0
	22-29	4.5-6.0	0.2-0.5	6.0-20	0
	29-75	5.1-8.4	0.1-0.3	10-18	0-15
MeB:					
Mentor----------	0-14	5.0-6.5	1.0-3.0	8.0-20	0
	14-36	4.5-6.0	0.2-0.5	8.0-20	0
	36-50	5.0-6.5	0.1-0.3	5.0-18	0
	50-60	5.5-7.0	0.1-0.3	2.0-10	0-5
MeC:					
Mentor----------	0-14	5.0-6.5	1.0-3.0	8.0-20	0
	14-36	4.5-6.0	0.2-0.5	8.0-20	0
	36-50	5.0-6.5	0.1-0.3	5.0-18	0
	50-60	5.5-7.0	0.1-0.3	2.0-10	0-5
Op:					
Olmsted---------	0-10	5.6-7.3	4.0-8.0	20-35	0
	10-40	5.6-7.3	1.0-10	8.0-16	---
	40-60	6.6-7.8	0.5-1.0	4.0-15	---
Or:					
Orrville Variant	0-14	5.5-6.5	2.0-4.0	9.0-23	0
	14-38	5.5-6.5	0.5-1.0	4.0-17	0
	38-40	---	0.0-0.5	---	---
Pa:					
Pewamo----------	0-11	6.0-7.0	3.0-12	15-35	---
	11-41	6.0-7.0	0.5-2.0	10-20	---
	41-60	6.5-7.5	0.0-1.0	5.0-15	15-30
Pc:					
Pewamo----------	0-11	6.0-7.0	3.0-12	15-35	---
	11-41	6.0-7.0	0.5-2.0	10-20	---
	41-60	6.5-7.5	0.0-1.0	5.0-15	15-30
Pg:					
Pits, gravel----	---	---	---	---	---
Pm:					
Pewamo----------	0-11	6.0-7.0	3.0-6.0	15-35	---
	11-41	6.0-7.0	0.5-2.0	10-20	---
	41-60	6.5-7.5	0.0-1.0	5.0-15	15-30
ReA:					
Ravenna---------	0-16	5.0-6.0	1.0-3.0	10-18	0
	16-23	4.5-5.5	0.5-1.0	8.0-18	0
	23-50	4.5-5.5	0.2-0.5	8.0-16	0
	50-60	5.5-6.5	0.1-0.3	6.0-17	0-6
ReB:					
Ravenna---------	0-16	5.0-6.0	1.0-3.0	10-18	0
	16-23	4.5-5.5	0.5-1.0	8.0-18	0
	23-50	4.5-5.5	0.2-0.5	8.0-16	0
	50-60	5.5-6.5	0.1-0.3	6.0-17	0-6

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
RsB:					
Rittman---------	0-13	4.5-6.0	2.0-3.0	12-25	---
	13-18	4.5-6.0	0.5-1.0	12-22	---
	18-42	5.0-6.0	0.2-0.5	8.0-20	---
	42-60	6.0-7.5	0.1-0.3	10-20	0-8
RsB2:					
Rittman---------	0-13	4.5-6.0	1.0-3.0	10-25	---
	13-18	4.5-6.0	0.5-1.0	12-22	---
	18-42	5.0-6.0	0.2-0.5	8.0-20	---
	42-60	6.0-7.5	0.1-0.3	10-20	0-8
RsC:					
Rittman---------	0-13	4.5-6.0	2.0-3.0	12-25	---
	13-18	4.5-6.0	0.5-1.0	12-22	---
	18-42	5.0-6.0	0.2-0.5	8.0-20	---
	42-60	6.0-7.5	0.1-0.3	10-20	0-8
RsC2:					
Rittman---------	0-13	4.5-6.0	1.0-3.0	10-25	---
	13-18	4.5-6.0	0.5-1.0	12-22	---
	18-42	5.0-6.0	0.2-0.5	8.0-20	---
	42-60	6.0-7.5	0.1-0.3	10-20	0-8
RsD:					
Rittman---------	0-13	4.5-6.0	2.0-3.0	12-25	---
	13-18	4.5-6.0	0.5-1.0	12-22	---
	18-42	5.0-6.0	0.2-0.5	8.0-20	---
	42-60	6.0-7.5	0.1-0.3	10-20	0-8
RsD2:					
Rittman---------	0-13	4.5-6.0	1.0-3.0	10-25	---
	13-18	4.5-6.0	0.5-1.0	12-22	---
	18-42	5.0-6.0	0.2-0.5	8.0-20	---
	42-60	6.0-7.5	0.1-0.3	10-20	0-8
RtC3:					
Rittman---------	0-13	4.5-6.0	0.5-1.0	12-25	---
	13-18	4.5-6.0	0.5-1.0	12-22	---
	18-42	5.0-6.0	0.2-0.5	8.0-20	---
	42-60	6.0-7.5	0.1-0.3	10-20	0-8
RtD3:					
Rittman---------	0-13	4.5-6.0	0.5-1.0	12-25	---
	13-18	4.5-6.0	0.5-1.0	12-22	---
	18-42	5.0-6.0	0.2-0.5	8.0-20	---
	42-60	6.0-7.5	0.1-0.3	10-20	0-8
SaC:					
Schaffenaker----	0-4	4.5-5.5	0.5-2.0	3.0-7.0	---
	4-10	4.5-5.5	0.5-1.0	1.0-5.0	---
	10-20	4.5-5.5	0.0-0.5	1.0-5.0	---
	20-28	4.5-5.5	0.0-0.5	1.0-5.0	---
	28-30	---	---	---	---
SaD:					
Schaffenaker----	0-4	4.5-5.5	0.5-2.0	3.0-7.0	---
	4-10	4.5-5.5	0.5-1.0	1.0-5.0	---
	10-20	4.5-5.5	0.0-0.5	1.0-5.0	---
	20-28	4.5-5.5	0.0-0.5	1.0-5.0	---
	28-30	---	---	---	---

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
SaE:					
Schaffenaker----	0-4	4.5-5.5	0.5-2.0	3.0-7.0	---
	4-10	4.5-5.5	0.5-1.0	1.0-5.0	---
	10-20	4.5-5.5	0.0-0.5	1.0-5.0	---
	20-28	4.5-5.5	0.0-0.5	1.0-5.0	---
	28-30	---	---	---	---
SbE:					
Schaffenaker----	0-14	3.6-5.5	0.5-2.0	3.0-7.0	---
	14-28	3.6-5.5	0.0-0.5	1.0-5.0	---
	28-32	---	---	---	---
Se:					
Sebring---------	0-12	5.0-6.5	3.0-5.0	15-27	0
	12-20	5.5-7.0	0.5-1.0	12-22	0
	20-37	5.5-7.0	0.3-0.5	12-22	0
	37-60	6.5-7.5	0.1-0.3	10-20	0-5
Sh:					
Shoals----------	0-16	6.0-7.2	2.0-5.0	12-27	0-5
	16-42	6.5-7.5	0.5-2.0	8.0-24	0-10
	42-60	6.8-7.8	0.5-1.0	5.0-17	0-25
Sk:					
Shoals Variant--	0-10	6.5-7.5	1.0-3.0	10-25	0
	10-40	6.5-7.5	0.5-2.0	2.0-5.0	0-10
	40-60	7.0-8.0	0.5-1.0	2.0-5.0	0-25
SmA:					
Sleeth----------	0-10	5.6-6.5	0.5-3.0	5.0-20	0
	10-60	5.1-6.5	0.5-1.0	8.0-23	0
	60-80	6.6-8.4	0.0-0.5	1.0-12	20-55
So:					
Sloan----------	0-19	6.0-7.0	3.0-6.0	19-29	---
	19-30	6.0-7.0	0.5-1.0	10-20	0-20
	30-60	6.5-7.5	0.0-0.5	4.0-18	5-40
TmA:					
Tiro----------	0-8	5.5-6.5	1.0-3.0	10-20	---
	8-25	5.0-6.5	0.5-1.0	9.0-18	---
	25-32	5.0-6.5	0.2-0.5	6.0-20	---
	32-60	6.5-8.0	0.1-0.3	12-20	5-15
TmB:					
Tiro----------	0-8	5.5-6.5	1.0-3.0	10-20	---
	8-25	5.0-6.5	0.5-1.0	9.0-18	---
	25-32	5.0-6.5	0.2-0.5	6.0-20	---
	32-60	6.5-8.0	0.1-0.3	12-20	5-15
TvB:					
Titusville------	0-11	5.0-6.0	1.0-3.0	7.0-16	0
	11-21	4.5-5.5	0.5-1.0	9.0-20	0
	21-45	4.5-5.5	0.3-0.5	10-24	0
	45-60	5.0-6.5	0.2-0.5	8.0-16	0
	60-81	5.0-6.5	0.1-0.3	8.0-17	0
TvC:					
Titusville------	0-11	5.0-6.0	1.0-3.0	7.0-16	0
	11-21	4.5-5.5	0.5-1.0	9.0-20	0
	21-45	4.5-5.5	0.3-0.5	10-24	0
	45-60	5.0-6.5	0.2-0.5	8.0-16	0
	60-81	5.0-6.5	0.1-0.3	8.0-17	0

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
Uc:					
Udorthents------	---	---	---	---	---
Ud:					
Udorthents------	---	---	---	---	---
Ur:					
Urban land------	---	---	---	---	---
W:					
Water----------	---	---	---	---	---
WaA:					
Wadsworth-------	0-13	5.0-6.5	2.0-4.0	14-20	0
	13-20	4.5-5.5	0.5-1.0	15-22	0
	20-38	4.5-5.5	0.2-0.5	10-20	0
	38-60	5.5-7.0	0.1-0.3	6.0-20	0-10
WaB:					
Wadsworth-------	0-13	5.0-6.5	2.0-4.0	14-20	0
	13-20	4.5-5.5	0.5-1.0	15-22	0
	20-38	4.5-5.5	0.2-0.5	10-20	0
	38-60	5.5-7.0	0.1-0.3	6.0-20	0-10
Wc:					
Wallkill--------	0-24	6.0-7.0	4.0-12	15-30	0
	24-50	6.0-7.0	0.5-1.0	30-60	0
	50-60	6.5-7.5	0.1-0.5	30-60	---
WeD:					
Westmoreland----	0-3	4.5-6.0	1.0-4.0	15-25	0
	3-24	4.5-6.0	0.0-0.5	10-20	0
	24-48	5.1-6.0	0.0-0.5	10-20	0
	48-50	---	---	---	---
WhA:					
Wheeling--------	0-18	5.5-7.0	1.0-3.0	7.0-18	---
	18-28	5.0-6.5	0.0-0.5	7.0-19	---
	28-36	5.0-6.5	0.0-0.5	7.0-19	---
	36-60	5.0-6.5	0.0-0.5	3.0-10	---
WhB:					
Wheeling--------	0-18	5.5-7.0	1.0-3.0	7.0-18	---
	18-28	5.0-6.5	0.0-0.5	7.0-19	---
	28-36	5.0-6.5	0.0-0.5	7.0-19	---
	36-60	5.0-6.5	0.0-0.5	3.0-10	---
WhC:					
Wheeling--------	0-18	5.5-7.0	1.0-3.0	7.0-18	---
	18-28	5.0-6.5	0.0-0.5	7.0-19	---
	28-36	5.0-6.5	0.0-0.5	7.0-19	---
	36-60	5.0-6.5	0.0-0.5	3.0-10	---
WmD:					
Mentor----------	0-14	5.0-6.5	1.0-3.0	8.0-20	0
	14-36	4.5-6.0	0.2-0.5	8.0-20	0
	36-50	5.0-6.5	0.1-0.5	5.0-18	0
	50-60	5.5-7.0	0.1-0.5	2.0-10	0-5
Wheeling--------	0-18	5.5-7.0	1.0-3.0	7.0-18	---
	18-28	5.0-6.5	0.0-0.5	7.0-19	---
	28-36	5.0-6.5	0.0-0.5	7.0-19	---
	36-60	5.0-6.5	0.0-0.5	3.0-10	---

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
WsB:					
Wooster	0-12	5.0-6.0	1.0-3.0	10-18	0
	12-24	4.5-5.5	0.3-0.8	8.0-16	0
	24-40	5.0-6.0	0.2-0.5	6.0-12	0
	40-60	5.5-6.5	0.1-0.4	6.0-12	0
WsB2:					
Wooster	0-12	5.0-6.0	1.0-3.0	10-18	0
	12-24	4.5-5.5	0.3-0.8	8.0-16	0
	24-40	5.0-6.0	0.2-0.5	6.0-12	0
	40-60	5.5-6.5	0.1-0.4	6.0-12	0
WsC:					
Wooster	0-12	5.0-6.0	1.0-3.0	10-18	0
	12-24	4.5-5.5	0.3-0.8	8.0-16	0
	24-40	5.0-6.0	0.2-0.5	6.0-12	0
	40-60	5.5-6.5	0.1-0.4	6.0-12	0
WsC2:					
Wooster	0-12	5.0-6.0	1.0-3.0	10-18	0
	12-24	4.5-5.5	0.3-0.8	8.0-16	0
	24-40	5.0-6.0	0.2-0.5	6.0-12	0
	40-60	5.5-6.5	0.1-0.4	6.0-12	0
WsD:					
Wooster	0-12	5.0-6.0	1.0-3.0	10-18	0
	12-24	4.5-5.5	0.3-0.8	8.0-16	0
	24-40	5.0-6.0	0.2-0.5	6.0-12	0
	40-60	5.5-6.5	0.1-0.4	6.0-12	0
WsD2:					
Wooster	0-12	5.0-6.0	1.0-3.0	10-18	0
	12-24	4.5-5.5	0.3-0.8	8.0-16	0
	24-40	5.0-6.0	0.2-0.5	6.0-12	0
	40-60	5.5-6.5	0.1-0.4	6.0-12	0
WsD3:					
Wooster	0-12	5.0-6.0	0.5-1.0	6.0-15	0
	12-24	4.5-5.5	0.3-0.8	8.0-16	0
	24-40	5.0-6.0	0.2-0.5	6.0-12	0
	40-60	5.5-6.5	0.1-0.4	6.0-12	0
WsE:					
Wooster	0-12	5.0-6.0	1.0-3.0	10-18	0
	12-24	4.5-5.5	0.3-0.8	8.0-16	0
	24-40	5.0-6.0	0.2-0.5	6.0-12	0
	40-60	5.5-6.5	0.1-0.4	6.0-12	0
WsE2:					
Wooster	0-5	4.5-6.0	1.0-3.0	10-18	0
	5-27	4.5-6.0	0.3-0.8	8.0-16	0
	27-40	4.5-6.0	0.2-0.5	8.0-18	0
	40-80	4.5-7.8	0.1-0.4	0.0-0.0	0-6
WsF:					
Wooster	0-12	5.0-6.0	1.0-3.0	10-18	0
	12-24	4.5-5.5	0.3-0.8	8.0-16	0
	24-40	5.0-6.0	0.2-0.5	6.0-12	0
	40-60	5.5-6.5	0.1-0.4	6.0-12	0

TABLE 30.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation-exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
WtB:					
Wooster---------	0-12	5.0-6.0	1.0-3.0	10-18	0
	12-24	4.5-5.5	0.3-0.8	8.0-16	0
	24-40	5.0-6.0	0.2-0.5	6.0-12	0
	40-60	5.5-6.5	0.1-0.4	6.0-12	0
Chili----------	0-10	5.0-6.5	1.0-3.0	8.0-16	0
	10-28	4.5-6.0	0.5-1.0	8.0-16	0
	28-44	5.5-7.0	0.2-0.5	6.0-16	0
	44-60	5.5-7.0	0.1-0.3	6.0-16	0
WtC:					
Wooster---------	0-12	5.0-6.5	1.0-3.0	10-18	0
	12-24	4.5-5.5	0.3-0.8	8.0-16	0
	24-40	5.0-6.0	0.2-0.5	6.0-12	0
	40-60	5.5-6.5	0.1-0.4	6.0-12	0
Chili----------	0-10	5.0-6.5	1.0-3.0	8.0-16	0
	10-28	4.5-6.0	0.5-1.0	8.0-16	0
	28-44	5.5-7.0	0.2-0.5	6.0-16	0
	44-60	5.5-7.0	0.1-0.3	6.0-16	0
WvE3:					
Wooster---------	0-12	5.0-6.0	0.5-1.0	6.0-15	0
	12-24	4.5-5.5	0.3-0.8	8.0-16	0
	24-40	5.0-6.0	0.2-0.5	6.0-12	0
	40-60	5.5-6.5	0.1-0.4	6.0-12	0

TABLE 31.--WATER FEATURES

(Depths of layers are in feet. 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. See text on page 250 for additional information.)

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
AcD2:										
Alexandria------	C	Jan-May	4.0-6.0	4.0-6.0	Perched	---	---	---	---	None
		Jun-Nov	---	---	---	---	---	---	---	None
		Dec	4.0-6.0	4.0-6.0	Perched	---	---	---	---	None
Bennington------	C	Jan-May	1.0-2.5	2.5-3.5	Perched	---	---	---	---	None
		Jun-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	1.0-2.5	2.5-3.5	Perched	---	---	---	---	None
Cardington------	C	Jan-Apr	1.5-3.0	2.5-4.0	Perched	---	---	---	---	None
		May-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	1.5-3.0	2.5-4.0	Perched	---	---	---	---	None
Condit----------	D	Jan-Jul	0	>6.0	Apparent	0.0-1.0	Long	---	---	None
		Aug-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	0	>6.0	Apparent	0.0-1.0	Long	---	---	None
Tuscola---------	B	Jan-Apr	2.0-3.5	>6.0	Apparent	---	---	---	---	None
		May-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	2.0-3.5	>6.0	Apparent	---	---	---	---	None
AdB:										
Alexandria------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
AdC:										
Alexandria------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
AdC2:										
Alexandria------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
AdD:										
Alexandria------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
AdD2:										
Alexandria------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
AdE:										
Alexandria------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
AdE2:										
Alexandria------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
AdF:										
Alexandria------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
AeD3:										
Alexandria------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
Ag:										
Algiers---------	C/D	Jan-Jun	0.5-1.5	>6.0	Apparent	---	---	None	Very brief	Frequent
		Jul-Nov	---	---	---	---	---	None	---	None
		Dec	---	---	---	---	---	None	Very brief	Frequent
BeB:										
Belmore---------	B	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
BeC:										
Belmore---------	B	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
BeD:										
Belmore---------	B	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
BnA:										
Bennington------	C	Jan-May	0.5-1.5	2.5-3.5	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.5-3.5	Perched	---	---	None	---	None
BnB:										
Bennington------	C	Jan-May	0.5-1.5	2.5-3.5	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.5-3.5	Perched	---	---	None	---	None

TABLE 31.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
BnB2:										
Bennington------	C	Jan-May	0.5-1.5	2.5-3.5	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.5-3.5	Perched	---	---	None	---	None
BpB:										
Bennington------	C	Jan-May	0.5-1.5	2.5-3.5	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.5-3.5	Perched	---	---	None	---	None
Fitchville------	C	Jan-May	0.5-1.5	2.5-5.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.5-5.0	Perched	---	---	None	---	None
BrB:										
Berks----------	C	Jan-Dec	>2.3	>2.3	---	---	---	None	---	None
BrC:										
Berks----------	C	Jan-Dec	>2.3	>2.3	---	---	---	None	---	None
BrD:										
Berks----------	C	Jan-Dec	>2.3	>2.3	---	---	---	None	---	None
BsF:										
Berks----------	C	Jan-Dec	>2.3	>2.3	---	---	---	None	---	None
Rock outcrop----	---	Jan-Dec	---	---	---	---	---	---	---	None
BtA:										
Bogart----------	B	Jan-May	1.5-2.5	>6.0	Apparent	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	>6.0	Apparent	---	---	None	---	None
BtB:										
Bogart----------	B	Jan-May	1.5-2.5	>6.0	Apparent	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	>6.0	Apparent	---	---	None	---	None
BvA:										
Bogart----------	B	Jan-May	1.5-2.5	>6.0	Apparent	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	>6.0	Apparent	---	---	None	---	None
BvB:										
Bogart----------	B	Jan-May	1.5-2.5	>6.0	Apparent	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	>6.0	Apparent	---	---	None	---	None
BwC:										
Brownsville-----	C	Jan-Dec	>4.7	>4.7	---	---	---	---	---	None
Westmoreland----	B	Jan-Dec	>3.3	>3.3	---	---	---	---	---	None
BwD:										
Brownsville-----	C	Jan-Dec	>4.7	>4.7	---	---	---	---	---	None
Westmoreland----	B	Jan-Dec	>3.3	>3.3	---	---	---	---	---	None
BxE:										
Brownsville-----	C	Jan-Dec	>4.7	>4.7	---	---	---	---	---	None
Westmoreland----	B	Jan-Dec	>5.0	>5.0	---	---	---	---	---	None
Coshocton-------	C	Jan-Apr	1.5-3.5	3.0-5.0	Perched	---	---	---	---	None
		May-Dec	---	---	---	---	---	---	---	None
CdB:										
Canfield--------	C	Jan-May	1.5-2.5	2.0-4.5	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.0-4.5	Perched	---	---	None	---	None
CdB2:										
Canfield--------	C	Jan-May	1.5-2.5	2.0-4.5	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.0-4.5	Perched	---	---	None	---	None

TABLE 31.--WATER FEATURES--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
CdC:										
Canfield--------	C	Jan-May	1.5-2.5	2.0-4.5	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.0-4.5	Perched	---	---	None	---	None
CdC2:										
Canfield--------	C	Jan-May	1.5-2.5	2.0-4.5	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.0-4.5	Perched	---	---	None	---	None
CgB:										
Cardington------	C	Jan-Apr	1.5-2.5	2.5-4.0	Perched	---	---	None	---	None
		May-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.5-4.0	Perched	---	---	None	---	None
CgB2:										
Cardington------	C	Jan-Apr	1.5-2.5	2.5-4.0	Perched	---	---	None	---	None
		May-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.5-4.0	Perched	---	---	None	---	None
CgC:										
Cardington------	C	Jan-Apr	1.5-2.5	2.5-4.0	Perched	---	---	None	---	None
		May-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.5-4.0	Perched	---	---	None	---	None
CgC2:										
Cardington------	C	Jan-Apr	1.5-2.5	2.5-4.0	Perched	---	---	None	---	None
		May-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.5-4.0	Perched	---	---	None	---	None
ChC3:										
Cardington------	C	Jan-Apr	1.5-2.5	2.5-4.0	Perched	---	---	None	---	None
		May-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.5-4.0	Perched	---	---	None	---	None
Ck:										
Carlisle--------	A/D	Jan-Jun	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	---	None
		Jul-Aug	---	---	---	0.0-1.0	Brief	Occasional	---	None
		Sep-Dec	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	---	None
CmB:										
Chili----------	B	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
CnB:										
Chili----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
CnC:										
Chili----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
CoD:										
Chili----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Conotton--------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
CoD3:										
Chili----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Conotton--------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
CoE:										
Chili----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Conotton--------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
CoF:										
Chili----------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
Conotton--------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None

TABLE 31.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
Cp:										
Condit----------	D	Jan-Jul	0	>6.0	Apparent	0.0-1.0	Long	---	---	None
		Aug-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	0	>6.0	Apparent	0.0-1.0	Long	---	---	None
Bennington------	C	Jan-May	1.0-2.5	2.5-3.5	Perched	---	---	---	---	None
		Jun-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	1.0-2.5	2.5-3.5	Perched	---	---	---	---	None
Colwood---------	B/D	Jan-May	0	>6.0	Apparent	0.0-1.0	Long	---	---	None
		Jun-Sep	---	---	---	---	---	---	---	None
		Oct-Dec	0	>6.0	Apparent	0.0-1.0	Long	---	---	None
Lenawee---------	B/D	Jan-May	0	>6.0	Apparent	0.0-1.0	Long	---	---	None
		Jun-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	0	>6.0	Apparent	0.0-1.0	Long	---	---	None
Pewamo----------	C/D	Jan-May	0	>6.0	Apparent	0.0-1.0	Long	---	---	None
		Jun-Nov	---	---	---	---	---	---	---	None
		Dec	0	>6.0	Apparent	0.0-1.0	Long	---	---	None
Cr:										
Condit----------	D	Jan-May	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	---	None
		Jun-Jul	0.0-0.5	>6.0	Apparent	---	---	None	---	None
		Aug-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	---	None
Cs:										
Condit----------	D	Jan-Jul	0.0-0.5	3.5-4.5	Perched	0.0-1.0	Long	Frequent	---	None
		Aug-Oct	---	---	---	---	---	None	---	None
		Nov	0.0-0.5	3.5-4.5	Perched	0.0-1.0	Long	Frequent	---	None
		Dec	0.0-1.0	3.5-4.5	Perched	0.0-1.0	Long	Frequent	---	None
Bennington------	C	Jan-May	0.5-1.5	2.5-3.5	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.5-3.5	Perched	---	---	None	---	None
CtC:										
Conotton--------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
CvC:										
Coshocton-------	C	Jan-Apr	1.5-3.0	3.0-5.0	Perched	---	---	---	---	None
		May-Dec	---	---	---	---	---	---	---	None
DmB:										
Digby----------	B	Jan-Apr	0.5-1.5	>6.0	Apparent	---	---	None	---	None
		May-Dec	---	---	---	---	---	None	---	None
FbA:										
Fitchville------	C	Jan-May	1.0-2.5	2.5-5.0	Perched	---	---	---	---	None
		Jun-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	1.0-2.5	2.5-5.0	Perched	---	---	---	---	None
FcA:										
Fitchville------	C	Jan-May	0.5-1.5	2.5-5.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.5-5.0	Perched	---	---	None	---	None
FcB:										
Fitchville------	C	Jan-May	0.5-1.5	2.5-5.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.5-5.0	Perched	---	---	None	---	None
FdA:										
Fitchville------	C	Jan-May	0.5-1.5	2.5-5.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.5-5.0	Perched	---	---	None	---	None
Bennington------	C	Jan-May	0.5-1.5	2.5-3.5	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.5-3.5	Perched	---	---	None	---	None

TABLE 31.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
FgA:										
Fitchville Variant--------	C	Jan-May	0.5-1.5	2.5-5.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.5-5.0	Perched	---	---	None	---	None
FgB:										
Fitchville Variant--------	C	Jan-May	0.5-1.5	2.5-5.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.5-5.0	Perched	---	---	None	---	None
Fr:										
Frenchtown------	D	Jan-May	0.0-0.5	2.0-5.0	Perched	---	---	None	---	None
		Jun-Sep	---	---	---	---	---	None	---	None
		Oct-Dec	0.0-0.5	2.0-5.0	Perched	---	---	None	---	None
GdB:										
Gilpin----------	C	Jan-Dec	>2.5	>2.5	---	---	---	---	---	None
Coshocton-------	C	Jan-Apr	1.5-3.5	3.0-5.0	Perched	---	---	---	---	None
		May-Dec	---	---	---	---	---	---	---	None
GdC:										
Gilpin----------	C	Jan-Dec	>2.5	>2.5	---	---	---	---	---	None
Westmoreland----	B	Jan-Dec	>3.3	>3.3	---	---	---	---	---	None
Coshocton-------	C	Jan-Apr	1.5-3.5	3.0-5.0	Perched	---	---	---	---	None
		May-Dec	---	---	---	---	---	---	---	None
GfA:										
Glenford--------	C	Jan-May	1.5-2.5	2.5-5.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.5-5.0	Perched	---	---	None	---	None
GfB:										
Glenford--------	C	Jan-May	1.5-2.5	2.5-5.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.5-5.0	Perched	---	---	None	---	None
GfC:										
Glenford--------	C	Jan-May	1.5-2.5	2.5-5.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.5-5.0	Perched	---	---	None	---	None
GrB:										
Gresham---------	C	Jan-Jun	0.5-1.5	2.0-5.0	Perched	---	---	None	---	None
		Jul-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.0-5.0	Perched	---	---	None	---	None
HaB:										
Haney----------	B	Jan-Apr	1.5-2.5	>6.0	Apparent	---	---	None	---	None
		May-Dec	---	---	---	---	---	None	---	None
HfB:										
Hanover---------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
HfC:										
Hanover---------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
HfC2:										
Hanover---------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
HfC3:										
Hanover---------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
HfD:										
Hanover---------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
HfD2:										
Hanover---------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None

TABLE 31.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
HfE:										
Hanover	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
Ho:										
Holly	B/D	Jan-May	0.0-0.5	>6.0	Apparent	---	---	None	Long	Frequent
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov	---	---	---	---	---	None	Long	Frequent
		Dec	0.0-0.5	>6.0	Apparent	---	---	None	Long	Frequent
HpB:										
Homewood	C	Jan-Apr	2.5-4.0	2.5-5.0	Perched	---	---	---	---	None
		May-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	2.5-4.0	2.5-5.0	Perched	---	---	---	---	None
Gresham	C	Jan-Jun	0.5-2.0	2.0-5.0	Perched	---	---	---	---	None
		Jul-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	0.5-2.0	2.0-5.0	Perched	---	---	---	---	None
HpC:										
Homewood	C	Jan-Apr	2.5-4.0	2.5-5.0	Perched	---	---	---	---	None
		May-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	2.5-4.0	2.5-5.0	Perched	---	---	---	---	None
Chili	B	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
Gresham	C	Jan-Jun	0.5-2.0	2.0-5.0	Perched	---	---	---	---	None
		Jul-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	0.5-2.0	2.0-5.0	Perched	---	---	---	---	None
Orrville	C	Jan-May	1.0-2.5	>6.0	Apparent	---	---	---	Brief	Occasional
		Jun	1.0-2.5	>6.0	Apparent	---	---	---	---	None
		Jul-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	1.0-2.5	>6.0	Apparent	---	---	---	Brief	Occasional
HpD2:										
Homewood	C	Jan-Apr	2.5-4.0	2.5-5.0	Perched	---	---	---	---	None
		May-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	2.5-4.0	2.5-5.0	Perched	---	---	---	---	None
Chili	B	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
Loudonville	C	Jan-Dec	>2.5	>2.5	---	---	---	---	---	None
Gresham	C	Jan-Jun	0.5-2.0	2.0-5.0	Perched	---	---	---	---	None
		Jul-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	0.5-2.0	2.0-5.0	Perched	---	---	---	---	None
Orrville	C	Jan-May	1.0-2.5	>6.0	Apparent	---	---	---	Brief	Occasional
		Jun	1.0-2.5	>6.0	Apparent	---	---	---	---	None
		Jul-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	1.0-2.5	>6.0	Apparent	---	---	---	Brief	Occasional
HpE2:										
Homewood	C	Jan-Apr	2.5-4.0	2.5-5.0	Perched	---	---	---	---	None
		May-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	2.5-4.0	2.5-5.0	Perched	---	---	---	---	None
Loudonville	C	Jan-Dec	>2.5	>2.5	---	---	---	---	---	None
Gresham	C	Jan-Jun	0.5-2.0	2.0-5.0	Perched	---	---	---	---	None
		Jul-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	0.5-2.0	2.0-5.0	Perched	---	---	---	---	None
Chili	B	Jan-Dec	>6.0	>6.0	---	---	---	---	---	None
JtA:										
Jimtown	C	Jan-May	0.5-1.5	>6.0	Apparent	---	---	None	---	None
		Jun-Nov	---	---	---	---	---	None	---	None
		Dec	0.5-1.5	>6.0	Apparent	---	---	None	---	None

TABLE 31.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
KbA:										
Kibbie----------	B	Jan-May	1.0-2.0	>6.0	Apparent	---	---	---	---	None
		Jun-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	1.0-2.0	>6.0	Apparent	---	---	---	---	None
Colwood---------	B/D	Jan-May	0	>6.0	Apparent	0.0-1.0	Long	---	---	None
		Jun-Sep	---	---	---	---	---	---	---	None
		Oct-Dec	0	>6.0	Apparent	0.0-1.0	Long	---	---	None
Jimtown---------	C	Jan-May	1.0-2.5	>6.0	Apparent	---	---	---	---	None
		Jun-Nov	---	---	---	---	---	---	---	None
		Dec	1.0-2.5	>6.0	Apparent	---	---	---	---	None
Lenawee---------	B/D	Jan-May	0	>6.0	Apparent	0.0-1.0	Long	---	---	None
		Jun-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	0	>6.0	Apparent	0.0-1.0	Long	---	---	None
Tuscola---------	B	Jan-Apr	2.0-3.5	>6.0	Apparent	---	---	---	---	None
		May-Oct	---	---	---	---	---	---	---	None
		Nov-Dec	2.0-3.5	>6.0	Apparent	---	---	---	---	None
La:										
Landes----------	B	Jan-Jun	---	---	---	---	---	None	Brief	Occasional
		Jul-Dec	---	---	---	---	---	None	---	---
LfB:										
Latham----------	D	Jan-Apr	1.5-2.5	2.5-3.5	Perched	---	---	None	---	None
		May-Dec	---	---	---	---	---	None	---	None
LfC:										
Latham----------	D	Jan-Apr	1.5-2.5	2.5-3.5	Perched	---	---	None	---	None
		May-Dec	---	---	---	---	---	None	---	None
Lg:										
Lenawee---------	B/D	Jan-May	0.0-1.0	4.0-6.0	Perched	0.0-1.0	Long	Frequent	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.0-1.0	4.0-6.0	Perched	0.0-1.0	Long	Frequent	---	None
Lk:										
Linwood---------	A/D	Jan-Jun	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	---	None
		Jul-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	---	None
Lo:										
Lobdell---------	B	Jan-Apr	1.5-2.5	>6.0	Apparent	---	---	None	Brief	Occasional
		May-Nov	---	---	---	---	---	None	---	None
		Dec	1.5-2.5	>6.0	Apparent	---	---	None	---	None
LrB:										
Lordstown-------	C	Jan-Dec	>3.0	>3.0	---	---	---	None	---	None
LrC:										
Lordstown-------	C	Jan-Dec	>3.0	>3.0	---	---	---	None	---	None
LrD:										
Lordstown-------	C	Jan-Dec	>3.0	>3.0	---	---	---	None	---	None
LrE:										
Lordstown-------	C	Jan-Dec	>2.5	>2.5	---	---	---	---	---	None
LrF:										
Lordstown-------	C	Jan-Dec	>2.5	>2.5	---	---	---	---	---	None
LtE:										
Lordstown-------	C	Jan-Dec	>3.0	>3.0	---	---	---	None	---	None
Loudonville-----	C	Jan-Dec	>3.2	>3.2	---	---	---	None	---	None
LtF:										
Lordstown-------	C	Jan-Dec	>3.0	>3.0	---	---	---	None	---	None
Loudonville-----	C	Jan-Dec	>3.2	>3.2	---	---	---	None	---	None
LvB:										
Loudonville-----	C	Jan-Dec	>3.2	>3.2	---	---	---	None	---	None

TABLE 31.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
LvC:										
Loudonville-----	C	Jan-Dec	>3.2	>3.2	---	---	---	None	---	None
LvD:										
Loudonville-----	C	Jan-Dec	>3.2	>3.2	---	---	---	None	---	None
Ly:										
Luray----------	C/D	Jan-Apr	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	---	None
		May-Jul	0.0-0.5	>6.0	Apparent	---	---	None	---	None
		Aug-Oct	---	---	---	---	---	None	---	None
		Nov	0.0-0.5	>6.0	Apparent	---	---	None	---	None
		Dec	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	---	None
LzB:										
Lykens----------	C	Jan-Apr	1.5-3.0	2.5-5.0	Perched	---	---	None	---	None
		May-Nov	---	---	---	---	---	None	---	None
		Dec	1.5-3.0	2.5-5.0	Perched	---	---	None	---	None
MeB:										
Mentor----------	B	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
MeC:										
Mentor----------	B	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
Op:										
Olmsted---------	B/D	Jan-May	0.0-0.5	>6.0	Apparent	0.0-1.0	Long	Frequent	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.0-0.5	>6.0	Apparent	0.0-1.0	Long	Frequent	---	None
Or:										
Orrville Variant	C	Jan-May	0.5-1.5	>3.2	Apparent	---	---	None	Brief	Occasional
		Jun	0.5-1.5	>3.2	Apparent	---	---	None	---	None
		Jul-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	>3.2	Apparent	---	---	None	Brief	Occasional
Pa:										
Pewamo----------	C/D	Jan	0.0-0.5	>6.0	Apparent	---	---	None	---	None
		Feb-May	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	---	None
		Jun-Nov	---	---	---	---	---	None	---	None
		Dec	0.0-0.5	>6.0	Apparent	---	---	None	---	None
Pc:										
Pewamo----------	C/D	Jan	0.0-0.5	>6.0	Apparent	---	---	None	---	None
		Feb-May	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	---	None
		Jun-Nov	---	---	---	---	---	None	---	None
		Dec	0.0-0.5	>6.0	Apparent	---	---	None	---	None
Pg:										
Pits, gravel----	---	Jan-Dec	---	---	---	---	---	---	---	None
Pm:										
Pewamo----------	C/D	Jan	0.0-0.5	>6.0	Apparent	---	---	None	---	None
		Feb-May	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	---	None
		Jun-Nov	---	---	---	---	---	None	---	None
		Dec	0.0-0.5	>6.0	Apparent	---	---	None	---	None
ReA:										
Ravenna---------	C	Jan-Jun	0.5-1.5	2.0-4.5	Perched	---	---	None	---	None
		Jul-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.0-4.5	Perched	---	---	None	---	None
ReB:										
Ravenna---------	C	Jan-Jun	0.5-1.5	2.0-4.5	Perched	---	---	None	---	None
		Jul-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.0-4.5	Perched	---	---	None	---	None
RsB:										
Rittman---------	C	Jan-May	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
RsB2:										
Rittman---------	C	Jan-May	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None

TABLE 31.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
RsC:										
Rittman---------	C	Jan-May	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
RsC2:										
Rittman---------	C	Jan-May	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
RsD:										
Rittman---------	C	Jan-May	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
RsD2:										
Rittman---------	C	Jan-May	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
RtC3:										
Rittman---------	C	Jan-May	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
RtD3:										
Rittman---------	C	Jan-May	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.0-4.0	Perched	---	---	None	---	None
SaC:										
Schaffenaker----	A	Jan-Dec	>2.3	>2.3	---	---	---	None	---	None
SaD:										
Schaffenaker----	A	Jan-Dec	>2.3	>2.3	---	---	---	None	---	None
SaE:										
Schaffenaker----	A	Jan-Dec	>2.3	>2.3	---	---	---	None	---	None
SbE:										
Schaffenaker----	A	Jan-Dec	>2.5	>2.5	---	---	---	---	---	None
Se:										
Sebring---------	B/D	Jan-Jun	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	---	None
		Jul-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	---	None
Sh:										
Shoals----------	C	Jan-Apr	0.5-1.0	>6.0	Apparent	0.0-1.0	Brief	Occasional	Brief	Occasional
		May-Jun	---	---	---	---	---	None	Brief	Occasional
		Jul-Sep	---	---	---	---	---	None	---	None
		Oct-Dec	---	---	---	---	---	None	Brief	Occasional
Sk:										
Shoals Variant--	C	Jan-Apr	0.5-1.5	>6.0	Apparent	---	---	None	Brief	Occasional
		May	---	---	---	---	---	None	Brief	Occasional
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	---	---	---	---	---	None	Brief	Occasional
SmA:										
Sleeth----------	C	Jan-Apr	1.0-3.0	>6.0	Apparent	---	---	None	---	None
		May-Dec	---	---	---	---	---	None	---	None
So:										
Sloan----------	B/D	Jan-Jun	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	Brief	Frequent
		Jul-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	Brief	Frequent
TmA:										
Tiro----------	C	Jan-Apr	0.5-1.5	3.5-5.5	Perched	---	---	None	---	None
		May-Dec	---	---	---	---	---	None	---	None
TmB:										
Tiro----------	C	Jan-Apr	0.5-1.5	3.5-5.5	Perched	---	---	None	---	None
		May-Dec	---	---	---	---	---	None	---	None

TABLE 31.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
TvB:										
Titusville------	C	Jan-May	1.5-2.5	2.0-4.5	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.0-4.5	Perched	---	---	None	---	None
TvC:										
Titusville------	C	Jan-May	1.5-2.5	2.0-4.5	Perched	---	---	None	---	None
		Jun-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	1.5-2.5	2.0-4.5	Perched	---	---	None	---	None
Uc:										
Udorthents------	---	Jan-Dec	---	---	---	---	---	---	---	None
Ud:										
Udorthents------	---	Jan-Dec	---	---	---	---	---	---	---	None
Ur:										
Urban land------	---	Jan-Dec	---	---	---	---	---	---	---	None
WaA:										
Wadsworth-------	C	Jan-Jun	0.5-1.5	2.0-4.0	Perched	---	---	None	---	None
		Jul-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.0-4.0	Perched	---	---	None	---	None
WaB:										
Wadsworth-------	C	Jan-Jun	0.5-1.5	2.0-4.0	Perched	---	---	None	---	None
		Jul-Oct	---	---	---	---	---	None	---	None
		Nov-Dec	0.5-1.5	2.0-4.0	Perched	---	---	None	---	None
Wc:										
Wallkill--------	C/D	Jan-Jun	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	Long	Frequent
		Jul-Aug	---	---	---	---	---	None	---	None
		Sep-Dec	0.0-0.5	>6.0	Apparent	0.0-1.0	Brief	Occasional	Long	Frequent
WeD:										
Westmoreland----	B	Jan-Dec	>5.0	>5.0	---	---	---	---	---	None
Coshocton-------	C	Jan-Apr	1.5-3.5	3.0-5.0	Perched	---	---	---	---	None
		May-Dec	---	---	---	---	---	---	---	None
Gilpin----------	C	Jan-Dec	>2.5	>2.5	---	---	---	---	---	None
WhA:										
Wheeling--------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
WhB:										
Wheeling--------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
WhC:										
Wheeling--------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
WmD:										
Mentor----------	B	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
Wheeling--------	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
WsB:										
Wooster---------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
WsB2:										
Wooster---------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
WsC:										
Wooster---------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
WsC2:										
Wooster---------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
WsD:										
Wooster---------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
WsD2:										
Wooster---------	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None

TABLE 31.--WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
WsD3:										
Wooster	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
WsE:										
Wooster	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
WsE2:										
Wooster	C	Jan	---	---	---	---	---	None	---	None
		Feb-Apr	2.5-4.0	3.0-4.5	Perched	---	---	None	---	None
		May-Dec	---	---	---	---	---	None	---	None
WsF:										
Wooster	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
WtB:										
Wooster	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
Chili	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
WtC:										
Wooster	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None
Chili	B	Jan-Dec	>6.0	>6.0	---	---	---	None	---	None
WvE3:										
Wooster	C	Jan-Dec	>4.0	>4.0	---	---	---	None	---	None

TABLE 32.--SOIL FEATURES

(See text on page 251 for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
AcD2:									
Alexandria	---	> 60	---	---		---	Moderate	Moderate	Moderate.
AdB:									
Alexandria	---	> 60	---	---		---	High	Moderate	Moderate.
AdC:									
Alexandria	---	> 60	---	---		---	High	Moderate	Moderate.
AdC2:									
Alexandria	---	> 60	---	---		---	High	Moderate	Moderate.
AdD:									
Alexandria	---	> 60	---	---		---	High	Moderate	Moderate.
AdD2:									
Alexandria	---	> 60	---	---		---	High	Moderate	Moderate.
AdE:									
Alexandria	---	> 60	---	---		---	High	Moderate	Moderate.
AdE2:									
Alexandria	---	> 60	---	---		---	High	Moderate	Moderate.
AdF:									
Alexandria	---	> 60	---	---		---	High	Moderate	Moderate.
AeD3:									
Alexandria	---	> 60	---	---		---	High	Moderate	Moderate.
Ag:									
Algiers	---	> 60	---	---		---	High	High	Low.
BeB:									
Belmore	---	> 60	---	---		---	Moderate	Low	Low.
BeC:									
Belmore	---	> 60	---	---		---	Moderate	Low	Low.
BeD:									
Belmore	---	> 60	---	---		---	Moderate	Low	Low.
BnA:									
Bennington	---	> 60	---	---		---	High	High	Moderate.
BnB:									
Bennington	---	> 60	---	---		---	High	High	Moderate.
BnB2:									
Bennington	---	> 60	---	---		---	High	High	Moderate.
BpB:									
Bennington	---	> 60	---	---		---	High	High	Moderate.
Fitchville	---	> 60	---	---		---	High	High	Moderate.
BrB:									
Berks	Bedrock (paralithic) Bedrock (lithic)	20- 35 20- 40	---	---		---	Moderate	Low	Moderate.
BrC:									
Berks	Bedrock (paralithic) Bedrock (lithic)	20- 35 20- 40	---	---		---	Moderate	Low	Moderate.
BrD:									
Berks	Bedrock (paralithic) Bedrock (lithic)	20- 35 20- 40	---	---		---	Moderate	Low	Moderate.
BsF:									
Berks	Bedrock (paralithic) Bedrock (lithic)	20- 35 20- 40	---	---		---	Moderate	Low	Moderate.
Rock outcrop	---	---	---	---		---	---	---	---
BtA:									
Bogart	---	> 60	---	---		---	Moderate	Moderate	Moderate.
BtB:									
Bogart	---	> 60	---	---		---	Moderate	Moderate	Moderate.
BvA:									
Bogart	---	> 60	---	---		---	Moderate	Moderate	Moderate.

TABLE 32.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
BvB:									
Bogart	---	> 60	---	---		---	Moderate	Moderate	Moderate.
BwC:									
Brownsville	Bedrock (paralithic)	40- 72	---	---		---	Moderate	Low	High.
BwD:									
Brownsville	Bedrock (paralithic)	40- 72	---	---		---	Moderate	Low	High.
BxE:									
Brownsville	Bedrock (paralithic)	40- 72	---	---	0	---	Moderate	Low	High.
Westmoreland	Bedrock (lithic)	40- 80	---	---	0	---	Moderate	Low	High.
CdB:									
Canfield	Fragipan	15- 28	15-30	---		---	High	High	High.
CdB2:									
Canfield	Fragipan	15- 28	15-30	---		---	High	High	High.
CdC:									
Canfield	Fragipan	15- 28	15-30	---		---	High	High	High.
CdC2:									
Canfield	Fragipan	15- 28	15-30	---		---	High	High	High.
CgB:									
Cardington	---	> 60	---	---		---	High	High	Moderate.
CgB2:									
Cardington	---	> 60	---	---		---	High	High	Moderate.
CgC:									
Cardington	---	> 60	---	---		---	High	High	Moderate.
CgC2:									
Cardington	---	> 60	---	---		---	High	High	Moderate.
ChC3:									
Cardington	---	> 60	---	---		---	High	High	Moderate.
Ck:									
Carlisle	---	> 60	---	---		43-54	High	High	Moderate.
CmB:									
Chili	---	> 60	---	---		---	Moderate	Low	High.
CnB:									
Chili	---	> 60	---	---		---	Low	Low	High.
CnC:									
Chili	---	> 60	---	---		---	Low	Low	High.
CoD:									
Chili	---	> 60	---	---		---	Low	Low	High.
Conotton	---	> 60	---	---		---	Low	Low	High.
CoD3:									
Chili	---	> 60	---	---		---	Low	Low	High.
Conotton	---	> 60	---	---		---	Low	Low	High.
CoE:									
Chili	---	> 60	---	---		---	Low	Low	High.
Conotton	---	> 60	---	---		---	Low	Low	High.
CoF:									
Chili	---	> 60	---	---		---	Low	Low	High.
Conotton	---	> 60	---	---		---	Low	Low	High.
Cp:									
Condit	---	> 60	---	---		---	High	High	Moderate.
Cr:									
Condit	---	> 60	---	---		---	High	High	Moderate.
Cs:									
Condit	---	> 70	---	---		---	High	High	Moderate.
Bennington	---	> 64	---	---		---	High	High	Moderate.
CtC:									
Conotton	---	> 60	---	---		---	Low	Low	High.

TABLE 32.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
CvC:									
Coshocton	Bedrock (paralithic)	40- 84	---	---		---	High	High	High.
DmB:									
Digby	---	> 60	---	---		---	High	High	Low.
FbA:									
Fitchville	---	> 60	---	---		---	High	High	Moderate.
FcA:									
Fitchville	---	> 60	---	---		---	High	High	Moderate.
FcB:									
Fitchville	---	> 60	---	---		---	High	High	Moderate.
FdA:									
Fitchville	---	> 60	---	---		---	High	High	Moderate.
Bennington	---	> 60	---	---		---	High	High	Moderate.
FgA:									
Fitchville Variant	---	> 60	---	---		---	High	High	Moderate.
FgB:									
Fitchville Variant	---	> 60	---	---		---	High	High	Moderate.
Fr:									
Frenchtown	Fragipan	13- 24	16-30	---		---	High	High	Moderate.
GdB:									
Gilpin	Bedrock (lithic)	20- 40	---	---		---	Moderate	Low	High.
GdC:									
Gilpin	Bedrock (lithic)	20- 40	---	---		---	Moderate	Low	High.
GfA:									
Glenford	---	> 60	---	---		---	High	Moderate	Moderate.
GfB:									
Glenford	---	> 60	---	---		---	High	Moderate	Moderate.
GfC:									
Glenford	---	> 60	---	---		---	High	Moderate	Moderate.
GrB:									
Gresham	Fragipan	18- 26	26-40	---		---	High	High	Moderate.
HaB:									
Haney	---	> 60	---	---		---	Moderate	Low	Moderate.
HfB:									
Hanover	Fragipan	20- 28	30-54	---		---	Moderate	Moderate	Moderate.
HfC:									
Hanover	Fragipan	20- 28	30-54	---		---	Moderate	Moderate	Moderate.
HfC2:									
Hanover	Fragipan	20- 28	30-54	---		---	Moderate	Moderate	Moderate.
HfC3:									
Hanover	Fragipan	20- 28	30-54	---		---	Moderate	Moderate	Moderate.
HfD:									
Hanover	Fragipan	20- 28	30-54	---		---	Moderate	Moderate	Moderate.
HfD2:									
Hanover	Fragipan	20- 28	30-54	---		---	Moderate	Moderate	Moderate.
HfE:									
Hanover	Fragipan	20- 28	30-54	---		---	Moderate	Moderate	Moderate.
Ho:									
Holly	---	> 60	---	---		---	High	High	Low.
HpB:									
Homewood	Fragipan	20- 36	24-40	Moderately cemented		---	Moderate	Low	Moderate.
HpC:									
Homewood	Fragipan	20- 36	24-40	Moderately cemented		---	Moderate	Low	Moderate.
HpD2:									
Homewood	Fragipan	20- 36	24-40	Moderately cemented		---	Moderate	Low	Moderate.

TABLE 32.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
HpE2:									
Homewood	Fragipan	20- 36	12-20	Moderately cemented		---	Moderate	Low	Moderate.
JtA:									
Jimtown	---	> 84	---	---		---	High	High	High.
KbA:									
Kibbie	---	> 60	---	---		---	High	High	Moderate.
La:									
Landes	---	> 60	---	---		---	Moderate	Low	Low.
LfB:									
Latham	Bedrock (paralithic)	20- 40	---	---		---	High	High	High.
LfC:									
Latham	Bedrock (paralithic)	20- 40	---	---		---	High	High	High.
Lg:									
Lenawee	---	> 60	---	---		---	High	High	Low.
Lk:									
Linwood	---	> 60	---	---		15-40	High	High	Low.
Lo:									
Lobdell	---	> 60	---	---		---	Moderate	Moderate	Low.
LrB:									
Lordstown	Bedrock (lithic)	20- 40	---	---		---	Moderate	Low	Moderate.
LrC:									
Lordstown	Bedrock (lithic)	20- 40	---	---		---	Moderate	Low	Moderate.
LrD:									
Lordstown	Bedrock (lithic)	20- 40	---	---		---	Moderate	Low	Moderate.
LrE:									
Lordstown	Bedrock (lithic)	20- 40	---	---		---	Moderate	Low	High.
LrF:									
Lordstown	Bedrock (lithic)	20- 40	---	---		---	Moderate	Low	High.
LtE:									
Lordstown	Bedrock (lithic)	20- 40	---	---		---	Moderate	Low	Moderate.
Loudonville	Bedrock (lithic)	20- 40	---	---		---	Moderate	Moderate	Moderate.
LtF:									
Lordstown	Bedrock (lithic)	20- 40	---	---		---	Moderate	Low	Moderate.
Loudonville	Bedrock (lithic)	20- 40	---	---		---	Moderate	Moderate	Moderate.
LvB:									
Loudonville	Bedrock (lithic)	20- 40	---	---		---	Moderate	Moderate	Moderate.
LvC:									
Loudonville	Bedrock (lithic)	20- 40	---	---		---	Moderate	Moderate	Moderate.
LvD:									
Loudonville	Bedrock (lithic)	20- 40	---	---		---	Moderate	Moderate	Moderate.
Ly:									
Luray	---	> 60	---	---		---	High	High	Low.
LzB:									
Lykens	---	> 75	---	---		---	High	High	High.
MeB:									
Mentor	---	> 60	---	---		---	Moderate	Low	Moderate.
MeC:									
Mentor	---	> 60	---	---		---	Moderate	Low	Moderate.
Op:									
Olmsted	---	> 60	---	---		---	High	High	High.
Or:									
Orrville Variant	Bedrock (lithic)	20- 40	---	---		---	High	Moderate	Moderate.
Pa:									
Pewamo	---	> 60	---	---		---	High	High	Low.
Pc:									
Pewamo	---	> 60	---	---		---	High	High	Low.

TABLE 32.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
Pg:									
Pits, gravel	---	---	---	---		---	---	---	---
Pm:									
Pewamo	---	> 60	---	---		---	High	High	Low.
ReA:									
Ravenna	Fragipan	18- 24	24-36	---		---	High	High	High.
ReB:									
Ravenna	Fragipan	18- 24	24-36	---		---	High	High	High.
RsB:									
Rittman	Fragipan	12- 24	14-30	---		---	High	High	Moderate.
RsB2:									
Rittman	Fragipan	12- 24	14-30	---		---	High	High	Moderate.
RsC:									
Rittman	Fragipan	12- 24	14-30	---		---	High	High	Moderate.
RsC2:									
Rittman	Fragipan	12- 24	14-30	---		---	High	High	Moderate.
RsD:									
Rittman	Fragipan	12- 24	14-30	---		---	High	High	Moderate.
RsD2:									
Rittman	Fragipan	12- 24	14-30	---		---	High	High	Moderate.
RtC3:									
Rittman	Fragipan	12- 24	14-30	---		---	High	High	Moderate.
RtD3:									
Rittman	Fragipan	12- 24	14-30	---		---	High	High	Moderate.
SaC:									
Schaffenaker	Bedrock (lithic)	20- 40	---	---		---	Low	Low	High.
SaD:									
Schaffenaker	Bedrock (lithic)	20- 40	---	---		---	Low	Low	High.
SaE:									
Schaffenaker	Bedrock (lithic)	20- 40	---	---		---	Low	Low	High.
SbE:									
Schaffenaker	Bedrock (lithic)	20- 40	---	---		---	Low	Low	High.
Se:									
Sebring	---	> 60	---	---		---	High	High	Moderate.
Sh:									
Shoals	---	> 60	---	---		---	High	High	Low.
Sk:									
Shoals Variant	---	> 60	---	---		---	Moderate	Moderate	Low.
SmA:									
Sleeth	---	> 80	---	---		---	High	High	Low.
So:									
Sloan	---	> 60	---	---		---	High	High	Low.
TmA:									
Tiro	---	> 60	---	---		---	High	High	Low.
TmB:									
Tiro	---	> 60	---	---		---	High	High	Low.
TvB:									
Titusville	Fragipan	18- 26	16-30	---		---	High	Moderate	High.
TvC:									
Titusville	Fragipan	18- 26	16-30	---		---	High	Moderate	High.
Uc:									
Udorthents	---	---	---	---		---	---	---	---
Ud:									
Udorthents	---	---	---	---		---	---	---	---
Ur:									
Urban land	---	---	---	---		---	---	---	---
W:									
Water	---	---	---	---		---	---	---	---
WaA:									
Wadsworth	Fragipan	16- 28	12-30	---		---	High	High	High.

TABLE 32.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
WaB:									
Wadsworth	Fragipan	16- 28	12-30	---		---	High	High	High.
Wc:									
Wallkill	---	> 60	---	---		---	High	High	Moderate.
WeD:									
Westmoreland	Bedrock (lithic)	40- 80	---	---		---	Moderate	Low	High.
WhA:									
Wheeling	---	> 60	---	---		---	Moderate	Moderate	Moderate.
WhB:									
Wheeling	---	> 60	---	---		---	Moderate	Moderate	Moderate.
WhC:									
Wheeling	---	> 60	---	---		---	Moderate	Moderate	Moderate.
WmD:									
Mentor	---	> 60	---	---		---	Moderate	Low	Moderate.
Wheeling	---	> 60	---	---		---	Moderate	Moderate	Moderate.
WsB:									
Wooster	Fragipan	20- 30	12-26	---		---	Moderate	Low	Moderate.
WsB2:									
Wooster	Fragipan	20- 30	12-26	---		---	Moderate	Low	Moderate.
WsC:									
Wooster	Fragipan	20- 30	12-26	---		---	Moderate	Low	Moderate.
WsC2:									
Wooster	Fragipan	20- 30	12-26	---		---	Moderate	Low	Moderate.
WsD:									
Wooster	Fragipan	20- 30	12-26	---		---	Moderate	Low	Moderate.
WsD2:									
Wooster	Fragipan	20- 30	12-26	---		---	Moderate	Low	Moderate.
WsD3:									
Wooster	Fragipan	20- 30	12-26	---		---	Moderate	Low	Moderate.
WsE:									
Wooster	Fragipan	20- 30	12-26	---		---	Moderate	Low	Moderate.
WsE2:									
Wooster	---	> 80	---	---		---	Moderate	Low	Moderate.
WsF:									
Wooster	Fragipan	20- 30	12-26	---		---	Moderate	Low	Moderate.
WtB:									
Wooster	Fragipan	20- 30	12-26	---		---	Moderate	Low	Moderate.
Chili	---	> 60	---	---		---	Low	Low	High.
WtC:									
Wooster	Fragipan	20- 30	12-26	---		---	Moderate	Low	Moderate.
Chili	---	> 60	---	---		---	Low	Low	High.
WvE3:									
Wooster	Fragipan	20- 30	12-26	---		---	Moderate	Low	Moderate.

TABLE 33.--CLASSIFICATION OF THE SOILS

(An asterisk in the first column indicates a taxadjunct to the series. See text on page 253 for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Alexandria	Fine, illitic, mesic Typic Hapludalfs
Algiers	Fine-loamy, mixed, nonacid, mesic Aquic Udifluvents
Belmore	Fine-loamy, mixed, mesic Typic Hapludalfs
Bennington	Fine, illitic, mesic Aeric Ochraqualfs
Berks	Loamy-skeletal, mixed, mesic Typic Dystrochrepts
Bogart	Fine-loamy, mixed, mesic Aquic Hapludalfs
Brownsville	Loamy-skeletal, mixed, mesic Typic Dystrochrepts
Canfield	Fine-loamy, mixed, mesic Aquic Fragiudalfs
Cardington	Fine, illitic, mesic Aquic Hapludalfs
Carlisle	Euic, mesic Typic Medisaprists
Chili	Fine-loamy, mixed, mesic Typic Hapludalfs
Condit	Fine, illitic, mesic Typic Ochraqualfs
Conotton	Loamy-skeletal, mixed, mesic Typic Hapludalfs
*Coshocton	Fine-loamy, mixed, mesic Aquultic Hapludalfs
Digby	Fine-loamy, mixed, mesic Aeric Ochraqualfs
Fitchville	Fine-silty, mixed, mesic Aeric Ochraqualfs
Fitchville Variant	Fine-silty, mixed, mesic Aeric Ochraqualfs
Frenchtown	Fine-loamy, mixed, mesic Typic Fragiaqualfs
Gilpin	Fine-loamy, mixed, mesic Typic Hapludults
Glenford	Fine-silty, mixed, mesic Aquic Hapludalfs
Gresham	Fine-loamy, mixed, mesic Aeric Fragiaqualfs
Haney	Fine-loamy, mixed, mesic Aquic Hapludalfs
Hanover	Fine-loamy, mixed, mesic Typic Fragiudults
Holly	Fine-loamy, mixed, nonacid, mesic Typic Fluvaquents
Homewood	Fine-loamy, mixed, mesic Typic Fragiudalfs
Jimtown	Fine-loamy, mixed, mesic Aeric Ochraqualfs
*Kibbie	Fine-loamy, mixed, mesic Aquollic Hapludalfs
Landes	Coarse-loamy, mixed, mesic Fluventic Hapludolls
Latham	Clayey, mixed, mesic Aquic Hapludults
Lenawee	Fine, mixed, nonacid, mesic Mollic Haplaquepts
Linwood	Loamy, mixed, euic, mesic Terric Medisaprists
Lobdell	Fine-loamy, mixed, mesic Fluvaquentic Eutrochrepts
Lordstown	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Loudonville	Fine-loamy, mixed, mesic Ultic Hapludalfs
Luray	Fine-silty, mixed, mesic Typic Argiaquolls
Lykens	Fine-silty, mixed, mesic Aquic Hapludalfs
Mentor	Fine-silty, mixed, mesic Typic Hapludalfs
Olmsted	Fine-loamy, mixed, mesic Mollic Ochraqualfs
Orrville Variant	Loamy-skeletal, mixed, nonacid, mesic Aeric Fluvaquents
Pewamo	Fine, mixed, mesic Typic Argiaquolls
Ravenna	Fine-loamy, mixed, mesic Aeric Fragiaqualfs
Rittman	Fine-loamy, mixed, mesic Aquic Fragiudalfs
Schaffenaker	Mesic, coated Typic Quartzipsamments
Sebring	Fine-silty, mixed, mesic Typic Ochraqualfs
Shoals	Fine-loamy, mixed, nonacid, mesic Aeric Fluvaquents
Shoals Variant	Sandy-skeletal, mixed, calcareous, mesic Aeric Fluvaquents
Sleeth	Fine-loamy, mixed, mesic Aeric Ochraqualfs
Sloan	Fine-loamy, mixed, mesic Fluvaquentic Haplaquolls
Tiro	Fine-silty, mixed, mesic Aeric Ochraqualfs
Titusville	Fine-loamy, mixed, mesic Aquic Fragiudalfs
Udorthents	Loamy, mixed, mesic Typic Udorthents
Udorthents	Udorthents
Wadsworth	Fine-silty, mixed, mesic Aeric Fragiaqualfs
Wallkill	Fine-loamy, mixed, nonacid, mesic Thapto-Histic Fluvaquents
Westmoreland	Fine-loamy, mixed, mesic Ultic Hapludalfs
Wheeling	Fine-loamy, mixed, mesic Ultic Hapludalfs
Wooster	Fine-loamy, mixed, mesic Typic Fragiudalfs

TABLE 34.--INTERPRETIVE GROUPS

(Unless otherwise indicated, a complex is treated as a single management unit in the 'Land capability' column. See text for definitions of the groups. Absence of an entry indicates that the map unit is not suited to the intended use or is not rated.)

Map symbol and soil name	Land capability classification	Pasture and hayland suitability group	Prime farmland	Hydric
AcD2: Alexandria	4e	A-1	Not prime farmland	No
AdB: Alexandria	2e	A-6	All areas are prime farmland	No
AdC: Alexandria	3e	A-6	Farmland of local importance	No
AdC2: Alexandria	3e	A-6	Farmland of local importance	No
AdD: Alexandria	4e	A-6	Not prime farmland	No
AdD2: Alexandria	4e	A-6	Not prime farmland	No
AdE: Alexandria	6e	A-2	Not prime farmland	No
AdE2: Alexandria	6e	A-2	Not prime farmland	No
AdF: Alexandria	6e	A-3	Not prime farmland	No
AeD3: Alexandria	6e	A-6	Not prime farmland	No
Ag: Algiers	2w	C-3	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	No
BeB: Belmore	2e	A-1	All areas are prime farmland	No
BeC: Belmore	3e	A-1	Farmland of local importance	No
BeD: Belmore	4e	A-1	Not prime farmland	No
BnA: Bennington	2w	C-1	Prime farmland if drained	No
BnB: Bennington	2e	C-1	Prime farmland if drained	No

TABLE 34.--INTERPRETIVE GROUPS--Continued

Map symbol and soil name	Land capability classification	Pasture and hayland suitability group	Prime farmland	Hydric
BnB2:	3e		Prime farmland if drained	
Bennington		C-1		No
BpB:	2e		Prime farmland if drained	
Bennington		C-1		No
Fitchville		C-1		No
BrB:	2e		Not prime farmland	
Berks		F-1		No
BrC:	3e		Not prime farmland	
Berks		F-1		No
BrD:	4e		Not prime farmland	
Berks		F-1		No
BsF:	7e		Not prime farmland	
Berks		F-2		No
Rock Outcrop		Not rated		Unranked
BtA:	2s		All areas are prime farmland	
Bogart		A-1		No
BtB:	2e		All areas are prime farmland	
Bogart		A-1		No
BvA:	1		All areas are prime farmland	
Bogart		A-1		No
BvB:	2e		All areas are prime farmland	
Bogart		A-1		No
BwC:	3e		Not prime farmland	
Brownsville		B-1		No
BwD:	4e		Not prime farmland	
Brownsville		B-1		No
BxE:	4e		Not prime farmland	
Brownsville		B-1		No
Westmoreland		A-2		No
CdB:	2e		All areas are prime farmland	
Canfield		F-3		No
CdB2:	2e		All areas are prime farmland	
Canfield		F-3		No
CdC:	3e		Farmland of local importance	
Canfield		F-3		No

TABLE 34.--INTERPRETIVE GROUPS--Continued

Map symbol and soil name	Land capability classification	Pasture and hayland suitability group	Prime farmland	Hydric
CdC2:	3e		Farmland of local importance	
Canfield		F-3		No
CgB:	2e		All areas are prime farmland	
Cardington		A-6		No
CgB2:	2e		All areas are prime farmland	
Cardington		A-6		No
CgC:	3e		Farmland of local importance	
Cardington		A-6		No
CgC2:	3e		Farmland of local importance	
Cardington		A-6		No
ChC3:	4e		Not prime farmland	
Cardington		A-6		No
Ck:	3w		Not prime farmland	
Carlisle		D-1		Yes
CmB:	2e		All areas are prime farmland	
Chili		A-1		No
CnB:	2e		All areas are prime farmland	
Chili		B-1		No
CnC:	3e		Farmland of local importance	
Chili		B-1		No
CoD:	6e		Not prime farmland	
Chili		B-1		No
Conotton		B-1		No
CoD3:	6e		Not prime farmland	
Chili		B-1		No
Conotton		B-1		No
CoE:	7e		Not prime farmland	
Chili		B-1		No
Conotton		B-1		No
CoF:	7e		Not prime farmland	
Chili		B-2		No
Conotton		B-2		No
Cp:	3w		Prime farmland if drained	
Condit		C-2		Yes

TABLE 34.--INTERPRETIVE GROUPS--Continued

Map symbol and soil name	Land capability classification	Pasture and hayland suitability group	Prime farmland	Hydric
Cr:	3w		Prime farmland if drained	
Condit		C-1		Yes
Cs:	3w		Prime farmland if drained	
Condit		C-1		Yes
Bennington		C-1		No
CtC:	4e		Farmland of local importance	
Conotton		B-1		No
CvC:	3e		Not prime farmland	
Coshocton		A-6		No
DmB:	2e		Prime farmland if drained	
Digby		C-1		No
FbA:	2w		Prime farmland if drained	
Fitchville		C-1		No
FcA:	2w		Prime farmland if drained	
Fitchville		C-1		No
FcB:	2e		Prime farmland if drained	
Fitchville		C-1		No
FdA:	2w		Prime farmland if drained	
Fitchville		C-1		No
Bennington		C-1		No
FgA:	2w		Prime farmland if drained	
Fitchville Variant		C-1		No
FgB:	2e		Prime farmland if drained	
Fitchville Variant		C-1		No
Fr:	3w		Prime farmland if drained	
Frenchtown		C-2		Yes
GdB:	2e		All areas are prime farmland	
Gilpin		F-1		No
GdC:	3e		Farmland of local importance	
Gilpin		F-1		No
GfA:	1		All areas are prime farmland	
Glenford		A-6		No

TABLE 34.--INTERPRETIVE GROUPS--Continued

Map symbol and soil name	Land capability classification	Pasture and hayland suitability group	Prime farmland	Hydric
GfB:	2e		All areas are prime farmland	
Glenford		A-6		No
GfC:	3e		Farmland of local importance	
Glenford		A-6		No
GrB:	2e		Prime farmland if drained	
Gresham		C-1		No
HaB:	2e		All areas are prime farmland	
Haney		A-1		No
HfB:	2e		All areas are prime farmland	
Hanover		F-3		No
HfC:	3e		Farmland of local importance	
Hanover		F-3		No
HfC2:	3e		Farmland of local importance	
Hanover		F-3		No
HfC3:	4e		Not prime farmland	
Hanover		F-3		No
HfD:	4e		Not prime farmland	
Hanover		F-3		No
HfD2:	4e		Not prime farmland	
Hanover		F-3		No
HfE:	6e		Not prime farmland	
Hanover		F-3		No
Ho:	3w		Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	
Holly		C-3		Yes
HpB:	2e		All areas are prime farmland	
Homewood		F-3		No
HpC:	3e		Farmland of local importance	
Homewood		F-3		No
HpD2:	4e		Farmland of local importance	
Homewood		F-3		No
HpE2:	6e		Not prime farmland	
Homewood		F-3		No

TABLE 34.--INTERPRETIVE GROUPS--Continued

Map symbol and soil name	Land capability classification	Pasture and hayland suitability group	Prime farmland	Hydric
JtA:	2w		Prime farmland if drained	
Jimtown		C-1		No
KbA:	2w		Prime farmland if drained	
Kibbie		C-1		No
La:	2s		All areas are prime farmland	
Landes		B-3		No
LfB:	3e		All areas are prime farmland	
Latham		F-1		No
LfC:	4e		Not prime farmland	
Latham		F-1		No
Lg:	2w		Prime farmland if drained	
Lenawee		C-1		Yes
Lk:	2w		Not prime farmland	
Linwood		D-1		Yes
Lo:	2w		All areas are prime farmland	
Lobdell		A-5		No
LrB:	2e		All areas are prime farmland	
Lordstown		F-1		No
LrC:	3e		Farmland of local importance	
Lordstown		F-1		No
LrD:	4e		Not prime farmland	
Lordstown		F-1		No
LrE:	6e		Not prime farmland	
Lordstown		F-2		No
LrF:	6e		Not prime farmland	
Lordstown		F-2		No
LtE:	4e		Not prime farmland	
Lordstown		F-1		No
Loudonville		F-1		No
LtF:	6e		Not prime farmland	
Lordstown		F-2		No
Loudonville		F-2		No
LvB:	2e		All areas are prime farmland	
Loudonville		F-1		No
LvC:	3e		Farmland of local importance	
Loudonville		F-1		No

TABLE 34.--INTERPRETIVE GROUPS--Continued

Map symbol and soil name	Land capability classification	Pasture and hayland suitability group	Prime farmland	Hydric
LvD:	4e		Not prime farmland	
Loudonville		F-1		No
Ly:	2w		Prime farmland if drained	
Luray		C-1		Yes
LzB:	2e		All areas are prime farmland	
Lykens		A-6		No
MeB:	2e		All areas are prime farmland	
Mentor		A-1		No
MeC:	3e		Not prime farmland	
Mentor		A-1		No
Op:	2w		Prime farmland if drained	
Olmsted		C-1		Yes
Or:	2w		Prime farmland if drained	
Orrville Variant		B-3		No
Pa:	2w		Prime farmland if drained	
Pewamo		C-1		Yes
Pc:	2w		Prime farmland if drained	
Pewamo		C-1		Yes
Pg:	---		Not prime farmland	
Pits, Gravel		Not rated		Unranked
Pm:	2w		Prime farmland if drained	
Pewamo		C-1		Yes
ReA:	2w		Prime farmland if drained	
Ravenna		C-1		No
ReB:	2e		Prime farmland if drained	
Ravenna		C-1		No
RsB:	2e		All areas are prime farmland	
Rittman		F-3		No
RsB2:	2e		All areas are prime farmland	
Rittman		F-3		No
RsC:	3e		Farmland of local importance	
Rittman		F-3		No
RsC2:	3e		Farmland of local importance	
Rittman		F-3		No

TABLE 34.--INTERPRETIVE GROUPS--Continued

Map symbol and soil name	Land capability classification	Pasture and hayland suitability group	Prime farmland	Hydric
RsD:	4e		Not prime farmland	
Rittman		F-3		No
RsD2:	4e		Not prime farmland	
Rittman		F-3		No
RtC3:	4e		Not prime farmland	
Rittman		F-3		No
RtD3:	6e		Not prime farmland	
Rittman		F-3		No
SaC:	4s		Not prime farmland	
Schaffenaker		F-1		No
SaD:	6s		Not prime farmland	
Schaffenaker		F-1		No
SaE:	7s		Not prime farmland	
Schaffenaker		F-2		No
SbE:	4s		Not prime farmland	
Schaffenaker		F-1		No
Se:	3w		Prime farmland if drained	
Sebring		C-1		Yes
Sh:	2w		Prime farmland if drained	
Shoals		C-3		No
Sk:	2w		Prime farmland if drained	
Shoals Variant		B-3		No
SmA:	2w		Prime farmland if drained	
Sleeth		C-1		No
So:	3w		Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	
Sloan		C-3		Yes
TmA:	2w		Prime farmland if drained	
Tiro		C-1		No
TmB:	2e		Prime farmland if drained	
Tiro		C-1		No
TvB:	2e		All areas are prime farmland	
Titusville		F-3		No
TvC:	3e		Farmland of local importance	
Titusville		F-3		No

TABLE 34.--INTERPRETIVE GROUPS--Continued

Map symbol and soil name	Land capability classification	Pasture and hayland suitability group	Prime farmland	Hydric
Uc: Udorthents	---	Not rated	Not prime farmland	No
Ud: Udorthents	---	Not rated	Not prime farmland	No
Ur: Urban Land	---	Not rated	Not prime farmland	Unranked
W: Water	---	Not rated	Not prime farmland	Unranked
WaA: Wadsworth	3w	C-2	Prime farmland if drained	No
WaB: Wadsworth	3e	C-2	Prime farmland if drained	No
Wc: Wallkill	3w	C-3	Farmland of local importance	Yes
WeD: Westmoreland	4e	B-1	Farmland of local importance	No
WhA: Wheeling	1	A-1	All areas are prime farmland	No
WhB: Wheeling	2e	A-1	All areas are prime farmland	No
WhC: Wheeling	3e	A-1	Not prime farmland	No
WmD: Wheeling	4e	A-1	Not prime farmland	No
Mentor		A-1		No
WsB: Wooster	2e	F-3	All areas are prime farmland	No
WsB2: Wooster	2e	F-3	All areas are prime farmland	No
WsC: Wooster	3e	F-3	Farmland of local importance	No
WsC2: Wooster	3e	F-3	Farmland of local importance	No
WsD: Wooster	4e	F-3	Not prime farmland	No

TABLE 34.--INTERPRETIVE GROUPS--Continued

Map symbol and soil name	Land capability classification	Pasture and hayland suitability group	Prime farmland	Hydric
WsD2:	4e		Not prime farmland	
Wooster		F-3		No
WsD3:	4e		Not prime farmland	
Wooster		F-3		No
WsE:	6e		Not prime farmland	
Wooster		F-3		No
WsE2:	6e		Not prime farmland	
Wooster		F-3		No
WsF:	6e		Not prime farmland	
Wooster		F-4		No
WtB:	2e		All areas are prime farmland	
Wooster		F-3		No
Chili		B-1		No
WtC:	3e		Farmland of local importance	
Wooster		F-3		No
Chili		B-1		No
WvE3:	7e		Not prime farmland	
Wooster		F-4		No