United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with
Minnesota Agricultural
Experiment Station

Soil Survey of Nobles County, Minnesota

Where To Get Updated Information

The soil properties and interpretations included in this survey were current as of April 2005. The most current information is available through the NRCS Soil Data Mart Website at http://soildatamart.nrcs.usda.gov/ or via the NRCS Web Soil Survey at http://websoilsurvey.nrcs.usda.gov/app/.

Additional information is available from the Natural Resources Conservation Service (NRCS) Field Office Technical Guide at Worthington, Minnesota, or online at www.nrcs.usda.gov/technical/efotg. The data in the Field Office Technical Guide are updated periodically.

Additional information about soils and about NRCS is available through the Minnesota NRCS Web page at www.mn.nrcs.usda.gov.

For further information, please contact:

USDA, Natural Resources Conservation Service
Worthington Field Office
1567 McMillan, Suite 3
Worthington, MN 56187-2801
Phone: 507-376-9150

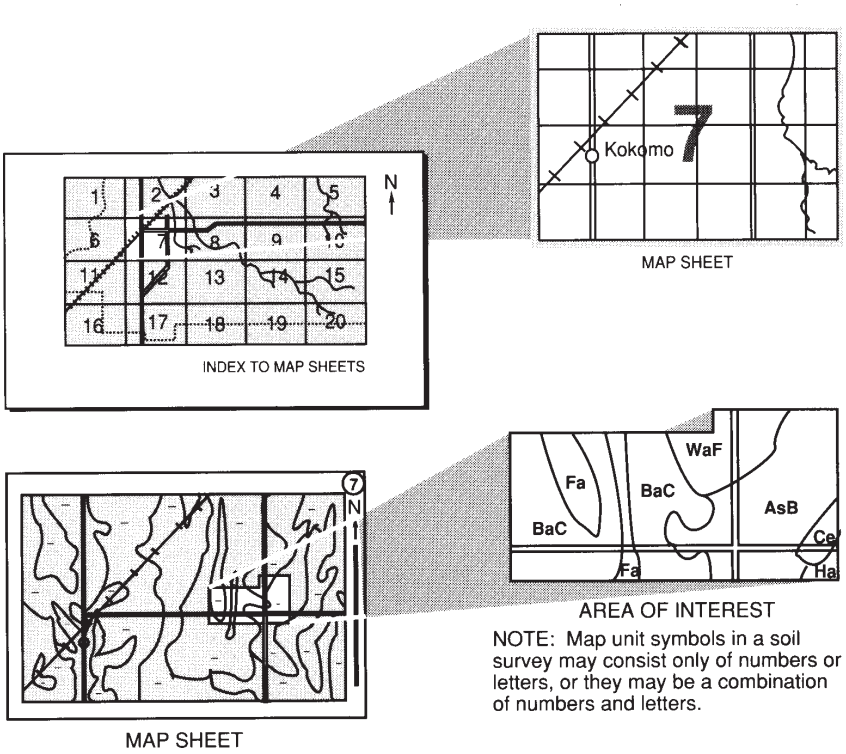
How To Use This Soil Survey

This publication consists of a manuscript and a set of soil maps. The information provided can be useful in planning the use and management of small areas.

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

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

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



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

National Cooperative Soil Survey

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

Major fieldwork for this soil survey was completed in November 2003. Soil names and descriptions were approved in March 2004. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2003. The most current official data are available on the Internet.

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

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Issued January 2006

Foreword

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

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

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

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

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

William Hunt
State Conservationist
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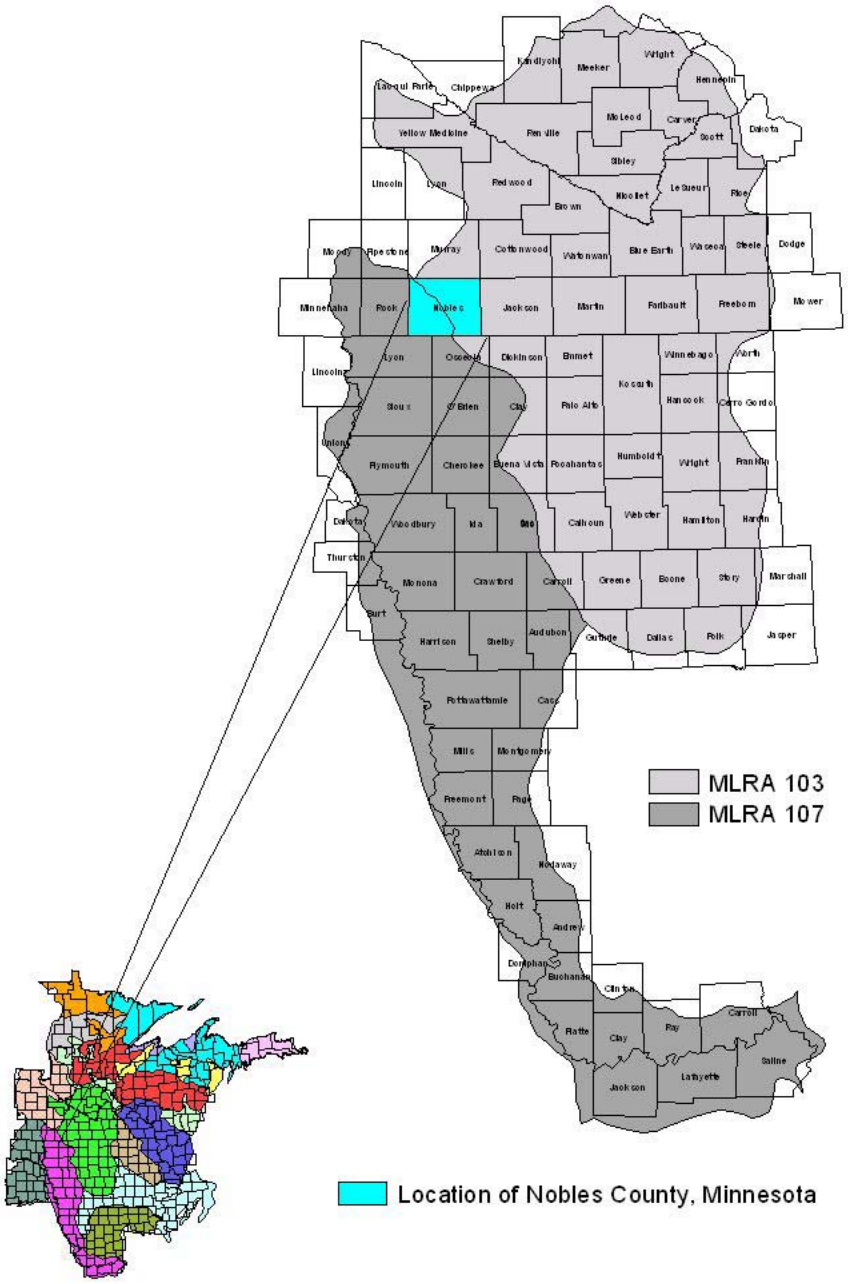

Location of Nobles County and MLRAs 103 and 107 in Region 10.

Soil Survey of
Nobles County, Minnesota

By Ray Genrich and Tom Jackson, Natural Resources Conservation Service

Fieldwork by Ray Genrich, Tom Jackson, and Joe Kristoff, Natural Resources Conservation Service

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

How This Survey Was Made

This survey was made to provide updated information about the soils and miscellaneous areas in the survey area, which is in Region 10 and in Major Land Resource Areas 103 and 107. Region 10 is an administrative division of the Natural Resources Conservation Service. Major land resource areas (MLRAs) are geographically associated land resource units that share a common land use, elevation and topography, climate, water, soils, and vegetation (USDA, 1981). The Nobles County survey area is a subset of MLRAs 103 and 107. Map unit design and the soil descriptions are based on the occurrence of each soil throughout the MLRAs. In some cases a soil may be referred to that was not mapped in the Nobles County subset but that is representative of the MLRAs.

This survey updates a previous survey published in 1975 (Lorenzen and Calkins, 1975). The current survey provides additional information and modern interpretations.

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

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

Individual soils on the landscape commonly merge into one another as their characteristics gradually change. To construct an accurate map, however, soil

scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

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

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Interpretations are modified as necessary to fit local conditions, and some new interpretations are developed to meet local needs. 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 zone in which the soil moisture status is wet within certain depths in most years, but they cannot predict that this zone 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.

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

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2003). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 1 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

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

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquoll (*Aqu,* meaning water, plus *oll,* from Mollisol).

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

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

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, superactive, calcareous, mesic Typic Endoaquolls.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series. The soils of the Spicer series are fine-silty, mixed, superactive, calcareous, mesic Typic Endoaquolls.

The Official Soil Series Descriptions (OSDs) provide the most current information about the series mapped in Nobles County. These descriptions are available on the Web at http://soils.usda.gov.

Table 1.--Classification of the Soils

Soil name	Family or higher taxonomic class
Afton	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Allendorf	Fine-silty over sandy or sandy-skeletal, mixed, superactive, mesic Typic Hapludolls
Annieville	Fine-silty, mixed, superactive, mesic Typic Hapludolls
Barbert	Fine, smectitic, mesic Vertic Argialbolls
Belleville	Sandy over loamy, mixed, superactive, mesic Typic Endoaquolls
Belview	Fine-loamy, mixed, superactive, mesic Typic Calciudolls
Biscay	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Endoaquolls
Blue Earth	Fine-silty, mixed, superactive, calcareous, mesic Mollic Fluvaquents
Brownton	Fine, smectitic, calcareous, mesic Vertic Endoaquolls
Calco	Fine-silty, mixed, superactive, calcareous, mesic Cumulic Endoaquolls
Canisteo	Fine-loamy, mixed, superactive, calcareous, mesic Typic Endoaquolls
Chetomba	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Clarion	Fine-loamy, mixed, superactive, mesic Typic Hapludolls
Coland	Fine-loamy, mixed, superactive, mesic Cumulic Endoaquolls
Collinwood	Fine, smectitic, mesic Aquertic Hapludolls
Colo	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Comfrey	Fine-loamy, mixed, superactive, mesic Cumulic Endoaquolls
Crippin	Fine-loamy, mixed, superactive, mesic Aquic Hapludolls
Crooksford	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludolls
Cylinder	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Aquic Hapludolls
Delft	Fine-loamy, mixed, superactive, mesic Cumulic Endoaquolls
Dickinson	Coarse-loamy, mixed, superactive, mesic Typic Hapludolls
Essexville	Sandy over loamy, mixed, calcareous, superactive, mesic Typic Endoaquolls
Estherville	Sandy, mixed, mesic Typic Hapludolls
Everly	Fine-loamy, mixed, superactive, mesic Typic Hapludolls
Farrar	Fine-loamy, mixed, superactive, mesic Typic Hapludolls
Galva	Fine-silty, mixed, superactive, mesic Typic Hapludolls
Gillett Grove	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Glencoe	Fine-loamy, mixed, superactive, mesic Cumulic Endoaquolls
Guckeen	Fine, smectitic, mesic Aquertic Hapludolls
Hanlon	Coarse-loamy, mixed, superactive, mesic Cumulic Hapludolls
Harps	Fine-loamy, mixed, superactive, mesic Typic Calciaquolls
Harpster	Fine-silty, mixed, superactive, mesic Typic Calciaquolls
Havelock	Fine-loamy, mixed, superactive, calcareous, mesic Cumulic Endoaquolls
Hawick	Sandy, mixed, mesic Entic Hapludolls
Henkin	Coarse-loamy, mixed, superactive, mesic Udic Haplustolls
Judson	Fine-silty, mixed, superactive, mesic Cumulic Hapludolls
Kanaranzi	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Hapludolls
Kato	Fine-silty over sandy or sandy-skeletal, mixed, superactive, mesic Typic Endoaquolls
Kingston	Fine-silty, mixed, superactive, mesic Aquic Hapludolls
Klossner	Loamy, mixed, euic, mesic Terric Haplosaprists
Knoke	Fine, smectitic, calcareous, mesic Cumulic Vertic Endoaquolls
Linder	Coarse-loamy, mixed, superactive, mesic Aquic Hapludolls
Lowlein	Coarse-loamy, mixed, superactive, mesic Oxyaquic Hapludolls
Lura	Fine, smectitic, mesic Cumulic Vertic Epiaquolls
Marcus	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Marna	Fine, smectitic, mesic Vertic Endoaquolls
Mayer	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, calcareous, mesic Typic Endoaquolls
McCreath	Fine-silty, mixed, superactive, mesic Aquic Hapludolls
Minneopa	Sandy, mixed, mesic Aquic Hapludolls
Moneta	Fine-loamy, mixed, superactive, mesic Entic Hapludolls
Nicollet	Fine-loamy, mixed, superactive, mesic Aquic Hapludolls
Ocheda	Fine, smectitic, mesic Aquertic Hapludolls
Ocheyedan	Fine-loamy, mixed, superactive, mesic Typic Hapludolls
Okabena	Fine-silty, mixed, superactive, mesic Aquic Hapludolls
Okoboji	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
Omsrud	Fine-loamy, mixed, superactive, mesic Typic Hapludolls
Pilot Grove	Sandy, mixed, mesic Typic Hapludolls
Primghar	Fine-silty, mixed, superactive, mesic Aquic Hapludolls
Prinsburg	Fine-silty, mixed, superactive, calcareous, mesic Typic Endoaquolls

Table 1.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Ransom	Fine-silty, mixed, superactive, mesic Aquic Hapludolls
Ridgeton	Fine-loamy, mixed, superactive, mesic Pachic Hapludolls
Round Lake	Sandy, mixed, mesic Typic Hapludolls
Rushmore	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Sac	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludolls
Spicer	Fine-silty, mixed, superactive, calcareous, mesic Typic Endoaquolls
Spillco	Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls
Spillville	Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls
Storden	Fine-loamy, mixed, superactive, mesic Typic Eutrudepts
Swanlake	Fine-loamy, mixed, superactive, mesic Typic Calciudolls
Talcot	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, calcareous, mesic Typic Endoaquolls
Talmo	Sandy-skeletal, mixed, mesic Udorthentic Haplustolls
Terril	Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls
Thurman	Sandy, mixed, mesic Udorthentic Haplustolls
Tomall	Coarse-loamy, mixed, superactive, mesic Cumulic Hapludolls
Udipsamments	Udipsamments
Udorthents	Udorthents
Wadena	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Hapludolls
Waldorf	Fine, smectitic, mesic Vertic Endoaquolls
Webster	Fine-loamy, mixed, superactive, mesic Typic Endoaquolls
Whitewood	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Wilmonton	Fine-loamy, mixed, superactive, mesic Aquic Hapludolls

Soil Map Unit Descriptions

In this section, arranged in numerical order, are the soil map unit descriptions for the soil series mapped in Nobles County.

Characteristics of the soil and the material in which it formed are identified for each soil series. A brief description of the soil profile is provided in the map unit descriptions. For more information about a soil series, the official series description can be viewed or downloaded from the Web. The detailed descriptions follow standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in “Keys to Soil Taxonomy” (Soil Survey Staff, 2003).

The map units on the soil maps in this survey represent the soils or miscellaneous areas in the survey area. These soils or miscellaneous areas are listed as individual components in the map unit descriptions. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is provided in the tables (see Contents).

A map unit delineation on the soil maps represents an area on the landscape. It is identified by differences in the properties and taxonomic classification of components and by the percentage of each component in the map unit.

Components that are dissimilar, or contrasting, are identified in the map unit description. Dissimilar components are those that have properties and behavioral characteristics divergent enough from those of the major components to affect use or to require different management. 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.

Components that are similar to the major components (noncontrasting) are not identified in the map unit description. Similar components are those that have properties and behavioral characteristics similar enough to those of the major components that they do not affect use or require different management.

The presence of multiple 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 segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but if intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol is used for each map unit on the soil maps. This symbol precedes the map unit name in the map unit descriptions. Each description includes general information about the unit. The map unit descriptions include representative values in feet and the months in which a wet zone (a zone in which the soil moisture status is wet) is highest and lowest in the soil profile and ponding is shallowest and deepest on the soil surface. The descriptions also include the frequency of flooding (if it occurs) and the months in which flooding is most frequent and least frequent. Table 19 provides a complete display of this data for every month of the year. The available water capacity given in each map unit description is calculated for all horizons in the

upper 60 inches of the soil profile. The organic matter content displayed in each map unit description is calculated for all horizons in the upper 10 inches of the soil profile. Table 17 provides a complete display of available water capacity and organic matter content by horizon.

The principal hazards and limitations to be considered in planning for specific uses are described in other sections of this survey.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying layers, 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 or of the underlying layers. They also can differ in slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. The name of a soil phase commonly indicates a feature that affects use or management. For example, Sac silty clay loam, 2 to 5 percent slopes, is a phase of the Sac series.

A map unit is named for the component or components that make up a dominant percentage of the map unit. Many map units consist of one dominant component. These map units are consociations. Marcus silty clay loam, 0 to 2 percent slopes, is an example.

Some map units are made up of two or more dominant components. These map units are called complexes. A *complex* consists of two or more components in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. Attempting to delineate the individual components of a complex would result in excessive clutter that could make the map illegible. The pattern and proportion of the components in a complex are somewhat similar in all areas. Omsrud-Storden complex, 6 to 12 percent slopes, moderately eroded, is an example.

This survey includes miscellaneous areas. Such areas have little or no soil material and support little or no vegetation. The Pits component of Pits, gravel-Udipsamments complex is an example.

Table 2 gives the acreage and proportionate extent of each map unit. Other tables (see Contents) give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

GP—Pits, gravel-Udipsamments complex

Component Description

Pits, gravel

Extent: 50 to 100 percent of the mapped areas
Geomorphic setting: Moraines; outwash plains; stream terraces
Parent material: Sandy and gravelly outwash
General description: Gravel pits are areas that have been mined for gravel or sand. The pits are actively being mined or are abandoned. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

Udipsamments

Extent: 15 to 30 percent of the mapped areas
Geomorphic setting: Moraines; outwash plains; stream terraces
Parent material: Outwash
General description: Udipsamments are soils that support plant growth. They occur as areas of the pit that have been reclaimed or abandoned. Because of the variability

of this component, interpretations for specific uses are not available. Onsite investigation is needed.

L5A—Delft, overwash-Delft complex, 1 to 4 percent slopes

Component Description

Delft, overwash, and similar soils
Extent: 40 to 60 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Drainageways and swales
Slope range: 1 to 4 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 4.5 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.3 inches
Content of organic matter in the upper 10 inches: 3.5 percent
Typical profile:
Ap—0 to 12 inches; loam
A—12 to 37 inches; loam
Bg—37 to 47 inches; clay loam
Cg—47 to 80 inches; loam

Delft and similar soils
Extent: 30 to 55 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Drainageways and swales
Slope range: 1 to 3 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 37 inches; loam
Bg—37 to 50 inches; clay loam
Cg—50 to 60 inches; loam

Delft, frequently flooded
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Drainageways and swales
Slope range: 0 to 3 percent
Texture of the surface layer: Clay loam

Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Colluvium over till
Months in which flooding does not occur: January, February, March, July, August, September, October, November, December
Highest frequency of flooding: Frequent (April, May, June)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.4 inches
Content of organic matter in the upper 10 inches: 5.9 percent
Typical profile:
A1—0 to 8 inches; clay loam
A2—8 to 26 inches; clay loam
Bg—26 to 40 inches; clay loam
Cg—40 to 80 inches; loam

Terril
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Footslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
Ap,A1—0 to 27 inches; loam
A2,BA—27 to 40 inches; loam
Bw—40 to 63 inches; loam
C—63 to 80 inches; loam

Glencoe, depressional
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 11.2 inches

Content of organic matter in the upper 10 inches: 7.5 percent
Typical profile:
Ap—0 to 10 inches; clay loam
A,ABg—10 to 35 inches; clay loam
Bg—35 to 48 inches; loam
Cg—48 to 60 inches; loam

Poorly drained soils
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Drainageways and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1-A3—0 to 32 inches; silty clay loam
Bg1,Bg2—32 to 43 inches; silty clay loam
2Cg1-2Cg4—43 to 80 inches; loam

L6A—Biscay loam, 0 to 2 percent slopes

Component Description

Biscay and similar soils
Extent: 80 to 100 percent of the mapped areas
Geomorphic setting: Stream terraces; outwash plains
Position on the landform: Swales
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Outwash
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 2.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1,A2—0 to 20 inches; loam
Bg—20 to 28 inches; loam
2BCg—28 to 36 inches; gravelly loam
2Cg—36 to 60 inches; stratified very gravelly coarse sand to loamy sand

Biscay, depressional
Extent: 0 to 20 percent of the mapped areas
Geomorphic setting: Stream terraces; outwash plains

Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Outwash
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 1.8 feet (August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1,A2—0 to 23 inches; loam
Bg—23 to 28 inches; loam
2BCg—28 to 36 inches; gravelly loam
2Cg—36 to 60 inches; stratified very gravelly coarse sand to loamy sand

Mayer
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Stream terraces; outwash plains
Position on the landform: Rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Outwash
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 2.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 7.3 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1,A2—0 to 18 inches; loam
Bg—18 to 33 inches; sandy clay loam
2C—33 to 80 inches; gravelly coarse sand

Cylinder
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Flats on outwash plains; flats on stream terraces
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Outwash
Flooding: None
Shallowest depth to wet zone: 1.3 feet (April)
Deepest depth to wet zone: 3.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 6.4 inches
Content of organic matter in the upper 10 inches: 4.5 percent

Typical profile:
Ap,A1—0 to 14 inches; loam
A2—14 to 18 inches; loam
Bg1,Bg2—18 to 28 inches; loam
2BC,2C—28 to 80 inches; gravelly loamy sand

L78A—Canisteo clay loam, 0 to 2 percent slopes

Component Description

Canisteo and similar soils
Extent: 55 to 85 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 18 inches; clay loam
Bkg—18 to 39 inches; loam
Cg—39 to 80 inches; loam

Crippin
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,AB—0 to 15 inches; loam
Bw—15 to 27 inches; loam
C—27 to 60 inches; loam

Glencoe, depressional
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent

Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 11.2 inches
Content of organic matter in the upper 10 inches: 7.5 percent
Typical profile:
Ap—0 to 10 inches; clay loam
A,ABg—10 to 35 inches; clay loam
Bg—35 to 48 inches; loam
Cg—48 to 60 inches; loam

Canisteo, depressional
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 17 inches; silty clay loam
Bg—17 to 30 inches; silty clay loam
2Cg—30 to 60 inches; loam

Harps
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 4.0 percent

Typical profile:
Apk,Ak—0 to 13 inches; clay loam
Bk—13 to 30 inches; loam
Cg—30 to 60 inches; loam

Webster
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 19 inches; clay loam
Bg—19 to 26 inches; clay loam
BCg,Cg—26 to 60 inches; loam

L79B—Clarion loam, 2 to 5 percent slopes

Component Description

Clarion and similar soils
Extent: 50 to 80 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 2 to 5 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 14 inches; loam
Bw—14 to 33 inches; loam
Bk—33 to 60 inches; loam

Clarion, moderately eroded
Extent: 10 to 20 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Shoulders
Slope range: 2 to 5 percent

Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 2.5 percent
Typical profile:
Ap—0 to 10 inches; loam
Bw—10 to 38 inches; loam
Bk—38 to 60 inches; loam

Nicollet
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 17 inches; clay loam
Bw,Bg1,Bg2—17 to 33 inches; clay loam
Bg3—33 to 36 inches; clay loam
Cg—36 to 60 inches; loam

Ocheyedan
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 2 to 5 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy and silty sediments
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 11.5 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap—0 to 10 inches; loam

Bw1,Bw2—10 to 30 inches; loam
2C1,2C2—30 to 60 inches; stratified loam to silt loam

Webster
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 19 inches; clay loam
Bg—19 to 26 inches; clay loam
BCg,Cg—26 to 60 inches; loam

L83A—Webster clay loam, 0 to 2 percent slopes

Component Description

Webster and similar soils
Extent: 50 to 85 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 19 inches; clay loam
Bg—19 to 26 inches; clay loam
BCg,Cg—26 to 60 inches; loam

Glencoe, depressional
Extent: 0 to 20 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained

Parent material: Till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 11.2 inches
Content of organic matter in the upper 10 inches: 7.5 percent
Typical profile:
Ap—0 to 10 inches; clay loam
A,ABg—10 to 35 inches; clay loam
Bg—35 to 48 inches; loam
Cg—48 to 60 inches; loam

Canisteo
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.3 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 18 inches; clay loam
Bkg—18 to 39 inches; loam
Cg—39 to 80 inches; loam

Nicollet
Extent: 0 to 20 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 17 inches; clay loam
Bw,Bg1,Bg2—17 to 33 inches; clay loam
Bg3—33 to 36 inches; clay loam
Cg—36 to 60 inches; loam

Poorly drained soils
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 7.0 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 22 inches; clay loam
Bg—22 to 30 inches; clay loam
2C—30 to 57 inches; coarse sand
3Cg—57 to 80 inches; loam

L85A—Nicollet clay loam, 1 to 3 percent slopes

Component Description

Nicollet and similar soils
Extent: 70 to 95 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and slight rises
Slope range: 1 to 3 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 17 inches; clay loam
Bw,Bg1,Bg2—17 to 33 inches; clay loam
Bg3—33 to 36 inches; clay loam
Cg—36 to 60 inches; loam

Clarion
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and summits
Slope range: 2 to 5 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till

Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 14 inches; loam
Bw—14 to 33 inches; loam
Bk—33 to 60 inches; loam

Webster
Extent: 2 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 19 inches; clay loam
Bg—19 to 26 inches; clay loam
BCg,Cg—26 to 60 inches; loam

L88A—Lura silty clay, depressional, 0 to 1 percent slopes

Component Description

Lura, depressional, and similar soils
Extent: 75 to 95 percent of the mapped areas
Geomorphic setting: Lake plains
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Silty clay
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Lacustrine sediments
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 9.6 inches
Content of organic matter in the upper 10 inches: 8.0 percent
Typical profile:
Ap—0 to 10 inches; silty clay

A—10 to 58 inches; clay
Bg—58 to 72 inches; silty clay

Brownton
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April, May)
Deepest depth to wet zone: 2.6 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,AB—0 to 22 inches; silty clay loam
Bg—22 to 38 inches; silty clay
2Cg—38 to 60 inches; loam

Depressional soils that have an organic surface layer
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Muck
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Organic material over lacustrine sediments
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 14.2 inches
Content of organic matter in the upper 10 inches: 42.5 percent
Typical profile:
Oap—0 to 10 inches; muck
2A1—10 to 26 inches; mucky silty clay loam
2A2—26 to 48 inches; silty clay loam
2Cg—48 to 80 inches; silty clay

Prinsburg
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None

Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 19 inches; silty clay loam
Bkg—19 to 29 inches; silt loam
Bg,Cg—29 to 46 inches; silt loam
2Cg—46 to 60 inches; loam

L96B—Estherville-Hawick complex, 2 to 6 percent slopes

Component Description

Estherville and similar soils
Extent: 40 to 65 percent of the mapped areas
Geomorphic setting: Hills on outwash plains; hills on terraces
Position on the landform: Backslopes and summits
Slope range: 2 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.1 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,A—0 to 13 inches; sandy loam
Bw1—13 to 18 inches; sandy loam
2Bw2—18 to 23 inches; loamy coarse sand
2C—23 to 60 inches; gravelly coarse sand

Hawick and similar soils
Extent: 25 to 40 percent of the mapped areas
Geomorphic setting: Hills on stream terraces; hills on outwash plains
Position on the landform: Shoulders, backslopes, and summits
Slope range: 2 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 2.7 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
Ap—0 to 7 inches; sandy loam
Bw,C—7 to 80 inches; gravelly coarse sand

Tomall
Extent: 5 to 15 percent of the mapped areas

Geomorphic setting: Outwash plains; stream terraces
Position on the landform: Swales
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Colluvium over outwash
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: 4.9 feet (August, September)
Ponding: None
Available water capacity to a depth of 60 inches: 9.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,AB—0 to 33 inches; loam
Bw—33 to 42 inches; sandy loam
2Bw—42 to 47 inches; loamy coarse sand
2C—47 to 80 inches; gravelly loamy coarse sand

Biscay
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Outwash plains
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Outwash
Flooding: None
Shallowest depth to wet zone: At the surface (April)
Deepest depth to wet zone: 2.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 20 inches; loam
Bg—20 to 28 inches; loam
2BCg—28 to 36 inches; gravelly loam
2Cg—36 to 60 inches; gravelly coarse sand

L97C—Hawick-Estherville complex, 6 to 12 percent slopes

Component Description

Hawick and similar soils
Extent: 45 to 70 percent of the mapped areas
Geomorphic setting: Hills on outwash plains; hills on stream terraces
Position on the landform: Shoulders, backslopes, and summits
Slope range: 6 to 12 percent
Texture of the surface layer: Gravelly sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Outwash
Flooding: None

Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 2.7 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
Ap—0 to 7 inches; gravelly sandy loam
Bw,C—7 to 80 inches; gravelly coarse sand

Estherville and similar soils
Extent: 25 to 40 percent of the mapped areas
Geomorphic setting: Hills on stream terraces; hills on outwash plains
Position on the landform: Summits and backslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.1 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,A—0 to 13 inches; sandy loam
Bw1—13 to 18 inches; sandy loam
2Bw2—18 to 23 inches; loamy coarse sand
2C—23 to 60 inches; gravelly coarse sand

Tomall
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Stream terraces; outwash plains
Position on the landform: Swales
Slope range: 0 to 3 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Colluvium over outwash
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: 4.9 feet (August, September)
Ponding: None
Available water capacity to a depth of 60 inches: 9.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,AB—0 to 33 inches; loam
Bw—33 to 42 inches; sandy loam
2Bw—42 to 47 inches; loamy coarse sand
2C—47 to 80 inches; gravelly loamy coarse sand

L98A—Crippin-Nicollet complex, 1 to 3 percent slopes

Component Description

Crippin and similar soils
Extent: 40 to 60 percent of the mapped areas

Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,AB—0 to 15 inches; loam
Bw—15 to 27 inches; loam
C—27 to 60 inches; loam

Nicollet and similar soils
Extent: 30 to 45 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 17 inches; clay loam
Bw,Bg1,Bg2—17 to 33 inches; clay loam
Bg3—33 to 36 inches; clay loam
Cg—36 to 60 inches; loam

Canisteo
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:
Ap,A—0 to 18 inches; clay loam
Bkg—18 to 39 inches; loam
Cg—39 to 80 inches; loam

Clarion
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 2 to 5 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 14 inches; loam
Bw—14 to 33 inches; loam
Bk—33 to 60 inches; loam

L102C2—Omsrud-Storden complex, 6 to 12 percent slopes, moderately eroded

Component Description

Omsrud, moderately eroded, and similar soils
Extent: 40 to 70 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Shoulders and backslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 2.9 percent
Typical profile:
Ap—0 to 9 inches; loam
Bw—9 to 19 inches; clay loam
Bk—19 to 36 inches; loam
C—36 to 80 inches; loam

Storden, moderately eroded, and similar soils
Extent: 20 to 30 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Shoulders and backslopes

Slope range: 6 to 12 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 7 inches; loam
Bk—7 to 55 inches; loam
C—55 to 80 inches; loam

Omsrud
Extent: 10 to 20 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and shoulders
Slope range: 6 to 12 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
Ap,A—0 to 12 inches; loam
Bw—12 to 16 inches; clay loam
Bk—16 to 32 inches; loam
C—32 to 60 inches; loam

Terril
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Footslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
Ap,A1—0 to 27 inches; loam
A2,BA—27 to 40 inches; loam

Bw—40 to 63 inches; loam
C—63 to 80 inches; loam

Delft
Extent: 2 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Drainageways and swales
Slope range: 1 to 3 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 37 inches; loam
Bg—37 to 50 inches; clay loam
Cg—50 to 60 inches; loam

Crooksford
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 1 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Lacustrine/loess sediments over till
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.3 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
BA—10 to 20 inches; silty clay loam
Bw—20 to 26 inches; silt loam
2Bw—26 to 34 inches; loam
2Bk—34 to 80 inches; loam

L102D2—Omsrud-Storden complex, 12 to 18 percent slopes, moderately eroded

Component Description

Omsrud, moderately eroded, and similar soils
Extent: 40 to 75 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and shoulders
Slope range: 12 to 18 percent

Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 2.9 percent
Typical profile:
Ap—0 to 9 inches; loam
Bw—9 to 19 inches; clay loam
Bk—19 to 36 inches; loam
C—36 to 80 inches; loam

Storden, moderately eroded, and similar soils
Extent: 15 to 25 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Shoulders and backslopes
Slope range: 12 to 18 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 7 inches; loam
Bk—7 to 55 inches; loam
C—55 to 80 inches; loam

Omsrud
Extent: 10 to 25 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and shoulders
Slope range: 12 to 18 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
Ap,A—0 to 12 inches; loam
Bw—12 to 16 inches; clay loam
Bk—16 to 32 inches; loam
C—32 to 60 inches; loam

Ridgeton
Extent: 5 to 10 percent of the mapped areas

Geomorphic setting: Hills on moraines
Position on the landform: Footslopes
Slope range: 9 to 14 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Colluvium over till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.2 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
Ap,A1—0 to 23 inches; loam
A2,AB—23 to 38 inches; loam
Bw—38 to 50 inches; loam
C—50 to 80 inches; loam

Delft
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Drainageways and swales
Slope range: 1 to 3 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 37 inches; loam
Bg—37 to 50 inches; clay loam
Cg—50 to 60 inches; loam

Terril
Extent: 2 to 8 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Footslopes
Slope range: 4 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 4.0 percent

Typical profile:
Ap,A1—0 to 27 inches; loam
A2,BA—27 to 40 inches; loam
Bw—40 to 63 inches; loam
C—63 to 80 inches; loam

L107A—Canisteo-Glencoe, depressional, complex, 0 to 2 percent slopes

Component Description

Canisteo and similar soils
Extent: 30 to 70 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 18 inches; clay loam
Bkg—18 to 39 inches; loam
Cg—39 to 80 inches; loam

Glencoe, depressional, and similar soils
Extent: 15 to 55 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 11.2 inches
Content of organic matter in the upper 10 inches: 7.5 percent
Typical profile:
Ap—0 to 10 inches; clay loam
A,ABg—10 to 35 inches; clay loam
Bg—35 to 48 inches; loam
Cg—48 to 60 inches; loam

Harps
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
Apk,Ak—0 to 13 inches; clay loam
Bk—13 to 30 inches; loam
Cg—30 to 60 inches; loam

Canisteo, depressional
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 17 inches; silty clay loam
Bg—17 to 30 inches; silty clay loam
2Cg—30 to 60 inches; loam

Crippin
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None

Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,AB—0 to 15 inches; loam
Bw—15 to 27 inches; loam
C—27 to 60 inches; loam

L111A—Nicollet silty clay loam, 1 to 3 percent slopes

Component Description

Nicollet and similar soils
Extent: 70 to 90 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 31 inches; clay loam
Bk—31 to 42 inches; loam
C—42 to 80 inches; loam

Okabena
Extent: 0 to 20 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.3 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,AB—0 to 15 inches; silty clay loam
Bw—15 to 22 inches; silty clay loam
Bk—22 to 43 inches; silt loam
Cg—43 to 48 inches; silt loam
2Cg—48 to 80 inches; loam

Clarion
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 2 to 5 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 14 inches; loam
Bw—14 to 33 inches; loam
Bk—33 to 60 inches; loam

Webster
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A,AB—0 to 24 inches; silty clay loam
Bg—24 to 45 inches; clay loam
Cg—45 to 80 inches; loam

L112A—Webster silty clay loam, 0 to 2 percent slopes

Component Description

Webster and similar soils
Extent: 75 to 90 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None

Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A,AB—0 to 24 inches; silty clay loam
Bg—24 to 45 inches; clay loam
Cg—45 to 80 inches; loam

Chetomba
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 23 inches; silty clay loam
Bg—23 to 31 inches; silty clay loam
Cg—31 to 43 inches; silt loam
2Cg—43 to 60 inches; loam

Glencoe, depressional
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 11.0 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
A,AB—10 to 29 inches; clay loam
Bg—29 to 40 inches; clay loam
Cg—40 to 80 inches; loam

Canisteo
Extent: 0 to 10 percent of the mapped areas

Geomorphic setting: Moraines
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.0 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 17 inches; silty clay loam
Bg—17 to 27 inches; silty clay loam
Cg—27 to 60 inches; loam

Nicollet
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 31 inches; clay loam
Bk—31 to 42 inches; loam
C—42 to 80 inches; loam

L126A—Coland silty clay loam, 0 to 2 percent slopes, occasionally flooded

Component Description

Coland, occasionally flooded, and similar soils
Extent: 65 to 90 percent of the mapped areas
Geomorphic setting: Flood plains
Position on the landform: Flats
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium

Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.2 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 25 inches; silty clay loam
AC,Cg1—25 to 54 inches; loam
Cg2—54 to 60 inches; sandy loam

Minneopa, occasionally flooded
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Flood plains
Position on the landform: Flats and rises
Slope range: 0 to 3 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: 3.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 5.3 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
Ap,A—0 to 15 inches; sandy loam
Bw—15 to 20 inches; sandy loam
BC,C—20 to 60 inches; loamy sand

Havelock, occasionally flooded
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Position on the landform: Flats
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.1 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 23 inches; clay loam

Bg—23 to 35 inches; clay loam
Cg—35 to 60 inches; stratified loam to silt loam to clay loam

Spillville, occasionally flooded
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Flood plains
Position on the landform: Flats and rises
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.7 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A—0 to 51 inches; loam
C—51 to 60 inches; loam

L127A—Coland silty clay loam, channeled, 0 to 2 percent slopes, frequently flooded

Component Description

Coland, frequently flooded, and similar soils
Extent: 65 to 90 percent of the mapped areas
Geomorphic setting: Flood plains
Position on the landform: Flats
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Frequent (March, April, May, June)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.3 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
A1—0 to 12 inches; silty clay loam
A2—12 to 30 inches; loam
A3—30 to 55 inches; stratified fine sandy loam to loam
AB,Bg—55 to 80 inches; fine sandy loam

Minneopa, occasionally flooded
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Flood plains

Position on the landform: Flats and rises
Slope range: 0 to 3 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: 3.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 5.6 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
A—0 to 16 inches; sandy loam
Bw—16 to 29 inches; loamy sand
C—29 to 60 inches; sand

Havelock, frequently flooded
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Flood plains
Position on the landform: Flats
Slope range: 0 to 2 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Frequent (March, April, May, June)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
A,Bg1—0 to 30 inches; silt loam
Bg2—30 to 40 inches; loam
Cg—40 to 60 inches; stratified loam to silt loam to clay loam

Spillville, occasionally flooded
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Flood plains
Position on the landform: Flats and rises
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)

Ponding: None
Available water capacity to a depth of 60 inches: 11.7 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
A—0 to 51 inches; loam
C—51 to 60 inches; loam

L129B—Terril loam, 2 to 6 percent slopes

Component Description

Terril and similar soils
Extent: 80 to 95 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Footslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
Ap,A1—0 to 27 inches; loam
A2,BA—27 to 40 inches; loam
Bw—40 to 63 inches; loam
C—63 to 80 inches; loam

Clarion
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 2 to 5 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 14 inches; loam
Bw—14 to 33 inches; loam
Bk—33 to 60 inches; loam

Delft
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Drainageways and swales
Slope range: 1 to 3 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 37 inches; loam
Bg—37 to 50 inches; clay loam
Cg—50 to 60 inches; loam

L130A—Okoboji mucky silty clay loam, depressional, 0 to 1 percent slopes

Component Description

Okoboji mucky silty clay loam, depressional, and similar soils
Extent: 60 to 85 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Mucky silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 12.0 inches
Content of organic matter in the upper 10 inches: 14.0 percent
Typical profile:
Ap,A1—0 to 13 inches; mucky silty clay loam
A2,A3—13 to 35 inches; silty clay loam
Bg—35 to 60 inches; silty clay loam

Okoboji silty clay loam, depressional
Extent: 10 to 20 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Silty clay loam

Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 12.1 inches
Content of organic matter in the upper 10 inches: 7.7 percent
Typical profile:
Ap,A—0 to 26 inches; silty clay loam
Bg—26 to 42 inches; silty clay
Cg—42 to 60 inches; silty clay loam

Brownton
Extent: 5 to 10 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April, May)
Deepest depth to wet zone: 2.6 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,AB—0 to 22 inches; silty clay loam
Bg—22 to 38 inches; silty clay
2Cg—38 to 60 inches; loam

Spicer
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Lake plains
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 16 inches; silty clay loam
Bg,BCg—16 to 40 inches; silt loam
Cg—40 to 60 inches; silt loam

L133A—Waldorf silty clay loam, 0 to 2 percent slopes

Component Description

Waldorf and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April, May)
Deepest depth to wet zone: 2.6 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.8 inches
Content of organic matter in the upper 10 inches: 7.0 percent
Typical profile:
Ap,A—0 to 15 inches; silty clay loam
AB—15 to 20 inches; silty clay loam
Bg—20 to 53 inches; silty clay
Cg—53 to 80 inches; silty clay loam

Marna
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April, May)
Deepest depth to wet zone: 2.6 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,AB—0 to 20 inches; silty clay loam
Bg—20 to 32 inches; clay
2Bg—32 to 41 inches; clay loam
2Bkg—41 to 60 inches; loam

Chetomba
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None

Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 23 inches; silty clay loam
Bg—23 to 31 inches; silty clay loam
Cg—31 to 43 inches; silt loam
2Cg—43 to 60 inches; loam

Brownton
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Lake plains; swales
Position on the landform: Rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April, May)
Deepest depth to wet zone: 2.6 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,AB—0 to 22 inches; silty clay loam
Bg—22 to 38 inches; silty clay
2Cg—38 to 60 inches; loam

Lura, depressional
Extent: 1 to 5 percent of the mapped areas
Geomorphic setting: Lake plains
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Silty clay
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Lacustrine sediments
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 9.6 inches
Content of organic matter in the upper 10 inches: 8.0 percent
Typical profile:
Ap—0 to 10 inches; silty clay
A—10 to 58 inches; clay
Bg—58 to 72 inches; silty clay

Barbert
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Lake plains

Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Lacustrine sediments
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 3.7 percent
Typical profile:
Ap—0 to 7 inches; silt loam
E—7 to 17 inches; silt loam
Btg—17 to 43 inches; clay
C—43 to 60 inches; silty clay loam

Ocheda
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April, May)
Deepest depth to wet zone: 4.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 9.1 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,AB—0 to 20 inches; silty clay loam
Bw—20 to 28 inches; silty clay loam
Bkg—28 to 57 inches; silty clay
2Cg—57 to 80 inches; loam

L134B—Clarion-Crooksford complex, 1 to 5 percent slopes

Component Description

Clarion and similar soils
Extent: 55 to 75 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 2 to 5 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till

Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 14 inches; loam
Bw—14 to 33 inches; loam
Bk—33 to 60 inches; loam

Crooksford and similar soils
Extent: 15 to 25 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 1 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Lacustrine/loess sediments over till
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.3 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
BA—10 to 20 inches; silty clay loam
Bw—20 to 26 inches; silt loam
2Bw—26 to 34 inches; loam
2Bk—34 to 80 inches; loam

Clarion, moderately eroded
Extent: 10 to 20 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Shoulders
Slope range: 2 to 5 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 2.5 percent
Typical profile:
Ap—0 to 10 inches; loam
Bw—10 to 38 inches; loam
Bk—38 to 60 inches; loam

Nicollet
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 31 inches; clay loam
Bk—31 to 42 inches; loam
C—42 to 80 inches; loam

Swanlake
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Shoulders
Slope range: 3 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 2.8 percent
Typical profile:
Ap—0 to 9 inches; loam
Bk—9 to 43 inches; loam
C—43 to 60 inches; loam

Terril
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Footslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September)
Ponding: None

Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
Ap,A1—0 to 27 inches; loam
A2,BA—27 to 40 inches; loam
Bw—40 to 63 inches; loam
C—63 to 80 inches; loam

L135A—Okabena silty clay loam, 1 to 3 percent slopes

Component Description

Okabena and similar soils
Extent: 70 to 90 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.3 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,AB—0 to 15 inches; silty clay loam
Bw—15 to 22 inches; silty clay loam
Bk—22 to 43 inches; silt loam
Cg—43 to 48 inches; silt loam
2Cg—48 to 80 inches; clay loam

Kingston
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Lake plains
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.3 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 16 inches; silty clay loam
Bw—16 to 25 inches; silty clay loam
C—25 to 60 inches; silt loam

Nicollet
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 31 inches; clay loam
Bk—31 to 42 inches; loam
C—42 to 80 inches; loam

Chetomba
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 23 inches; silty clay loam
Bg—23 to 31 inches; silty clay loam
Cg—31 to 43 inches; silt loam
2Cg—43 to 60 inches; loam

Ocheda
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April, May)
Deepest depth to wet zone: 4.9 feet (February, August)
Ponding: None

Available water capacity to a depth of 60 inches: 9.1 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,AB—0 to 20 inches; silty clay loam
Bw—20 to 28 inches; silty clay loam
Bkg—28 to 57 inches; silty clay
2Cg—57 to 80 inches; loam

Waldorf
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April, May)
Deepest depth to wet zone: 2.6 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.8 inches
Content of organic matter in the upper 10 inches: 7.0 percent
Typical profile:
Ap,A—0 to 15 inches; silty clay loam
AB—15 to 20 inches; silty clay loam
Bg—20 to 53 inches; silty clay
Cg—53 to 80 inches; silty clay loam

L136A—Crooksford silty clay loam, 1 to 3 percent slopes

Component Description

Crooksford and similar soils
Extent: 75 to 90 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Lacustrine/loess sediments over till
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.3 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
BA—10 to 20 inches; silty clay loam
Bw—20 to 26 inches; silt loam
2Bw—26 to 34 inches; loam
2Bk—34 to 80 inches; loam

Nicollet
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 31 inches; clay loam
Bk—31 to 42 inches; loam
C—42 to 80 inches; loam

Clarion
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and summits
Slope range: 2 to 5 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 14 inches; loam
Bw—14 to 33 inches; loam
Bk—33 to 60 inches; loam

Okabena
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None

Available water capacity to a depth of 60 inches: 11.3 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,AB—0 to 15 inches; silty clay loam
Bw—15 to 22 inches; silty clay loam
Bk—22 to 43 inches; silt loam
Cg—43 to 48 inches; silt loam
2Cg—48 to 80 inches; clay loam

Webster
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A,AB—0 to 24 inches; silty clay loam
Bg—24 to 45 inches; clay loam
Cg—45 to 80 inches; loam

L137A—Cylinder loam, 0 to 2 percent slopes

Component Description

Cylinder and similar soils
Extent: 80 to 95 percent of the mapped areas
Geomorphic setting: Stream terraces; outwash plains
Position on the landform: Flats
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Outwash
Flooding: None
Shallowest depth to wet zone: 1.3 feet (April)
Deepest depth to wet zone: 3.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 6.4 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A1—0 to 14 inches; loam
A2—14 to 18 inches; loam
Bg1,Bg2—18 to 28 inches; loam
2BC,2C—28 to 80 inches; gravelly loamy sand

Biscay
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Outwash plains
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Outwash
Flooding: None
Shallowest depth to wet zone: At the surface (April)
Deepest depth to wet zone: 2.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 20 inches; loam
Bg—20 to 28 inches; loam
2BCg—28 to 36 inches; gravelly loam
2Cg—36 to 60 inches; gravelly coarse sand

Wadena
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Hills on terraces; hills on outwash plains
Position on the landform: Summits and backslopes
Slope range: 1 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy sediments over outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.4 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 13 inches; loam
Bw1—13 to 20 inches; loam
Bw2—20 to 30 inches; sandy loam
2C—30 to 60 inches; gravelly coarse sand

Linder
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Stream terraces; outwash plains
Position on the landform: Flats and rises
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Outwash
Flooding: None
Shallowest depth to wet zone: 1.3 feet (April)
Deepest depth to wet zone: 3.0 feet (August)
Ponding: None

Available water capacity to a depth of 60 inches: 6.3 inches
Content of organic matter in the upper 10 inches: 3.5 percent
Typical profile:
Ap,AB—0 to 15 inches; loam
Bw,BC—15 to 29 inches; sandy loam
2C—29 to 60 inches; stratified gravelly coarse sand to coarse sand to loamy coarse sand

L138B—Estherville loam, 1 to 6 percent slopes

Component Description

Estherville and similar soils
Extent: 80 to 95 percent of the mapped areas
Geomorphic setting: Hills on outwash plains; hills on terraces
Position on the landform: Backslopes and summits
Slope range: 1 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.1 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,A—0 to 13 inches; loam
Bw1—13 to 18 inches; sandy loam
2Bw2—18 to 23 inches; loamy coarse sand
2C—23 to 60 inches; gravelly coarse sand

Wadena
Extent: 2 to 10 percent of the mapped areas
Geomorphic setting: Hills on outwash plains; hills on terraces
Position on the landform: Summits and backslopes
Slope range: 1 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy sediments over outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.4 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 13 inches; loam
Bw1—13 to 20 inches; loam
Bw2—20 to 30 inches; sandy loam
2C—30 to 60 inches; gravelly coarse sand

Hawick
Extent: 0 to 8 percent of the mapped areas
Geomorphic setting: Hills on outwash plains; hills on stream terraces

Position on the landform: Shoulders, summits, and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 2.7 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
Ap—0 to 7 inches; sandy loam
Bw,C—7 to 80 inches; gravelly coarse sand

Cylinder
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Stream terraces; outwash plains
Position on the landform: Flats
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Outwash
Flooding: None
Shallowest depth to wet zone: 1.3 feet (April)
Deepest depth to wet zone: 3.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 6.4 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A1—0 to 14 inches; loam
A2—14 to 18 inches; loam
Bg1,Bg2—18 to 28 inches; loam
2BC,2C—28 to 80 inches; gravelly loamy sand

L139A—Wadena loam, 0 to 2 percent slopes

Component Description

Wadena and similar soils
Extent: 80 to 90 percent of the mapped areas
Geomorphic setting: Outwash plains; stream terraces
Position on the landform: Flats and rises
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy sediments over outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.4 inches
Content of organic matter in the upper 10 inches: 4.5 percent

Typical profile:
Ap,A—0 to 13 inches; loam
Bw1—13 to 20 inches; loam
Bw2—20 to 30 inches; sandy loam
2C—30 to 60 inches; gravelly coarse sand

Estherville
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Stream terraces; outwash plains
Position on the landform: Flats and rises
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.1 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,A—0 to 13 inches; loam
Bw1—13 to 18 inches; sandy loam
2Bw2—18 to 23 inches; loamy coarse sand
2C—23 to 60 inches; gravelly coarse sand

Kanaranzi
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Stream terraces; outwash plains
Position on the landform: Flats and rises
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.6 inches
Content of organic matter in the upper 10 inches: 3.7 percent
Typical profile:
Ap—0 to 7 inches; loam
BA,Bw—7 to 20 inches; loam
2C1-2C3—20 to 80 inches; gravelly coarse sand

Cylinder
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Outwash plains; stream terraces
Position on the landform: Flats
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Outwash
Flooding: None
Shallowest depth to wet zone: 1.3 feet (April)

Deepest depth to wet zone: 3.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 6.4 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A1—0 to 14 inches; loam
A2—14 to 18 inches; loam
Bg1,Bg2—18 to 28 inches; loam
2BC,2C—28 to 80 inches; gravelly loamy sand

Dickinson
Extent: 0 to 8 percent of the mapped areas
Geomorphic setting: Outwash plains; stream terraces
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Fine sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.1 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
Ap,A—0 to 14 inches; fine sandy loam
Bw—14 to 39 inches; fine sandy loam
C—39 to 60 inches; loamy fine sand

L139B—Wadena loam, 2 to 6 percent slopes

Component Description

Wadena and similar soils
Extent: 80 to 90 percent of the mapped areas
Geomorphic setting: Hills on terraces; hills on outwash plains
Position on the landform: Backslopes and summits
Slope range: 2 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy sediments over outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.4 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 13 inches; loam
Bw1—13 to 20 inches; loam
Bw2—20 to 30 inches; sandy loam
2C—30 to 60 inches; sand

Estherville
Extent: 2 to 14 percent of the mapped areas

Geomorphic setting: Hills on terraces; hills on outwash plains
Position on the landform: Backslopes and summits
Slope range: 2 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.1 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,A—0 to 13 inches; loam
Bw1—13 to 18 inches; sandy loam
2Bw2—18 to 23 inches; loamy coarse sand
2C—23 to 60 inches; gravelly coarse sand

Cylinder
Extent: 0 to 4 percent of the mapped areas
Geomorphic setting: Outwash plains; stream terraces
Position on the landform: Flats
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Outwash
Flooding: None
Shallowest depth to wet zone: 1.3 feet (April)
Deepest depth to wet zone: 3.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 6.4 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A1—0 to 14 inches; loam
A2—14 to 18 inches; loam
Bg1,Bg2—18 to 28 inches; loam
2BC,2C—28 to 80 inches; gravelly loamy sand

Dickinson
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Hills on outwash plains; hills on stream terraces
Position on the landform: Summits and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Fine sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 6.1 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
Ap,A—0 to 14 inches; fine sandy loam

Bw—14 to 39 inches; fine sandy loam
C—39 to 60 inches; loamy fine sand

Biscay
Extent: 0 to 4 percent of the mapped areas
Geomorphic setting: Swales on outwash plains; flats on outwash plains
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Outwash
Flooding: None
Shallowest depth to wet zone: At the surface (April)
Deepest depth to wet zone: 2.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 20 inches; loam
Bg—20 to 28 inches; loam
2BCg—28 to 36 inches; gravelly loam
2Cg—36 to 60 inches; gravelly coarse sand

L140A—Ocheda silty clay loam, 1 to 3 percent slopes

Component Description

Ocheda and similar soils
Extent: 75 to 90 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April, May)
Deepest depth to wet zone: 4.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 9.1 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,AB—0 to 20 inches; silty clay loam
Bw—20 to 28 inches; silty clay loam
Bkg—28 to 57 inches; silty clay
2Cg—57 to 80 inches; loam

Guckeen
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Flats and rises
Slope range: 0 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)

Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April, May)
Deepest depth to wet zone: 4.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.1 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A—0 to 15 inches; silty clay loam
Bw—15 to 24 inches; silty clay
2Bw—24 to 30 inches; clay loam
2Cg—30 to 60 inches; loam

Collinwood
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Flats and rises
Slope range: 0 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April, May)
Deepest depth to wet zone: 4.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 8.6 inches
Content of organic matter in the upper 10 inches: 6.5 percent
Typical profile:
A—0 to 16 inches; silty clay loam
Bw—16 to 32 inches; clay
C—32 to 60 inches; silty clay

Nicollet
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 31 inches; clay loam
Bk—31 to 42 inches; loam
C—42 to 80 inches; loam

Clarion
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and summits
Slope range: 2 to 5 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 14 inches; loam
Bw—14 to 33 inches; loam
Bk—33 to 60 inches; loam

Marna
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April, May)
Deepest depth to wet zone: 2.6 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,AB—0 to 20 inches; silty clay loam
Bg—20 to 32 inches; clay
2Bg—32 to 41 inches; clay loam
2Bkg—41 to 60 inches; loam

L141A—Spillville loam, 0 to 2 percent slopes, occasionally flooded

Component Description

Spillville, occasionally flooded, and similar soils
Extent: 80 to 90 percent of the mapped areas
Geomorphic setting: Flood plains
Position on the landform: Flats and rises
Slope range: 0 to 2 percent
Texture of the surface layer: Loam

Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.7 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A—0 to 51 inches; loam
C—51 to 60 inches; loam

Coland, occasionally flooded
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Flood plains
Position on the landform: Flats
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.2 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 25 inches; silty clay loam
AC,Cg1—25 to 54 inches; loam
Cg2—54 to 60 inches; sandy loam

Hanlon, occasionally flooded
Extent: 0 to 8 percent of the mapped areas
Geomorphic setting: Flood plains
Position on the landform: Flats and rises
Slope range: 0 to 3 percent
Texture of the surface layer: Fine sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, July, August, September, October, November, December
Highest frequency of flooding: Rare (March, April, May, June)
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: 3.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 9.9 inches
Content of organic matter in the upper 10 inches: 2.5 percent

Typical profile:
A—0 to 24 inches; fine sandy loam
AB—24 to 52 inches; fine sandy loam
Bw1—52 to 57 inches; fine sandy loam
Bw2,C—57 to 80 inches; stratified fine sand to loamy fine sand to fine sandy loam

Havelock, occasionally flooded
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Flood plains
Position on the landform: Flats
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.1 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 23 inches; clay loam
Bg—23 to 35 inches; clay loam
Cg—35 to 60 inches; stratified loam to silt loam to clay loam

L144A—Chetomba silty clay loam, 0 to 2 percent slopes

Component Description

Chetomba and similar soils
Extent: 65 to 85 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 23 inches; silty clay loam
Bg—23 to 31 inches; silty clay loam
Cg—31 to 43 inches; silt loam
2Cg—43 to 60 inches; loam

Waldorf
Extent: 5 to 20 percent of the mapped areas

Geomorphic setting: Moraines; lake plains
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April, May)
Deepest depth to wet zone: 2.6 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.8 inches
Content of organic matter in the upper 10 inches: 7.0 percent
Typical profile:
Ap,A—0 to 15 inches; silty clay loam
AB—15 to 20 inches; silty clay loam
Bg—20 to 53 inches; silty clay
Cg—53 to 80 inches; silty clay loam

Webster
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A,AB—0 to 24 inches; silty clay loam
Bg—24 to 45 inches; clay loam
Cg—45 to 80 inches; loam

Okoboji, depressional
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Alluvium/lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 12.1 inches

Content of organic matter in the upper 10 inches: 7.7 percent
Typical profile:
Ap,A—0 to 26 inches; silty clay loam
Bg—26 to 42 inches; silty clay
Cg—42 to 60 inches; silty clay loam

Prinsburg
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 19 inches; silty clay loam
Bkg—19 to 29 inches; silt loam
Bg,Cg—29 to 46 inches; silt loam
2Cg—46 to 60 inches; loam

Okabena
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.3 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,AB—0 to 15 inches; silty clay loam
Bw—15 to 22 inches; silty clay loam
Bk—22 to 43 inches; silt loam
Cg—43 to 48 inches; silt loam
2Cg—48 to 80 inches; loam

L145A—Canisteo silty clay loam, 0 to 2 percent slopes

Component Description

Canisteo and similar soils
Extent: 75 to 85 percent of the mapped areas

Geomorphic setting: Moraines
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.0 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 17 inches; silty clay loam
Bg—17 to 27 inches; silty clay loam
Cg—27 to 60 inches; loam

Glencoe, depressional
Extent: 2 to 15 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 11.0 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
A,AB—10 to 29 inches; clay loam
Bg—29 to 40 inches; clay loam
Cg—40 to 80 inches; loam

Webster
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches

Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A,AB—0 to 24 inches; silty clay loam
Bg—24 to 45 inches; clay loam
Cg—45 to 80 inches; loam

Prinsburg
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 19 inches; silty clay loam
Bkg—19 to 29 inches; silt loam
Bg,Cg—29 to 46 inches; silt loam
2Cg—46 to 60 inches; loam

Crippin
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,AB—0 to 15 inches; loam
Bw—15 to 27 inches; loam
C—27 to 60 inches; loam

L146A—Glencoe silty clay loam, depressional, 0 to 1 percent slopes

Component Description

Glencoe, depressional, and similar soils
Extent: 75 to 100 percent of the mapped areas
Geomorphic setting: Moraines

Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 11.0 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
A,AB—10 to 29 inches; clay loam
Bg—29 to 40 inches; clay loam
Cg—40 to 80 inches; loam

Canisteo
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 18 inches; clay loam
Bkg—18 to 39 inches; loam
Cg—39 to 80 inches; loam

Harps
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 4.0 percent

Typical profile:
Apk,Ak—0 to 13 inches; clay loam
Bk—13 to 30 inches; loam
Cg—30 to 60 inches; loam

L150A—Prinsburg silty clay loam, 0 to 2 percent slopes

Component Description

Prinsburg and similar soils
Extent: 65 to 80 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 19 inches; silty clay loam
Bkg—19 to 29 inches; silt loam
Bg,Cg—29 to 46 inches; silt loam
2Cg—46 to 60 inches; loam

Chetomba
Extent: 2 to 20 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 23 inches; silty clay loam
Bg—23 to 31 inches; silty clay loam
Cg—31 to 43 inches; silt loam
2Cg—43 to 60 inches; loam

Webster
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales

Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A,AB—0 to 24 inches; silty clay loam
Bg—24 to 45 inches; clay loam
Cg—45 to 80 inches; loam

Canisteo
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 17 inches; silty clay loam
Bg—17 to 27 inches; silty clay loam
2Cg—27 to 60 inches; loam

Okabena
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.3 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,AB—0 to 15 inches; silty clay loam
Bw—15 to 22 inches; silty clay loam
Bk—22 to 43 inches; silt loam

Cg—43 to 48 inches; silt loam
2Cg—48 to 80 inches; loam

Okoboji, depressional
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Alluvium/lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 12.1 inches
Content of organic matter in the upper 10 inches: 7.7 percent
Typical profile:
Ap,A—0 to 26 inches; silty clay loam
Bg—26 to 42 inches; silty clay
Cg—42 to 60 inches; silty clay loam

L151A—Glencoe mucky silty clay loam, ponded, 0 to 1 percent slopes

Component Description

Glencoe, ponded, and similar soils
Extent: 75 to 90 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Mucky silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Till
Flooding: None
Wet zone: At the surface all year
Shallowest ponding: 0.5 foot (August)
Deepest ponding: 3.0 feet (March, April, May)
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 14.0 percent
Typical profile:
A—0 to 42 inches; mucky silty clay loam
Bg—42 to 50 inches; clay loam
Cg—50 to 60 inches; loam

Okoboji, ponded
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent

Texture of the surface layer: Mucky silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Alluvium or lacustrine sediments over till
Flooding: None
Wet zone: At the surface all year
Shallowest ponding: 0.5 foot (August)
Deepest ponding: 3.0 feet (March, April, May)
Available water capacity to a depth of 60 inches: 11.9 inches
Content of organic matter in the upper 10 inches: 14.0 percent
Typical profile:
A1—0 to 10 inches; mucky silty clay loam
A2—10 to 52 inches; silty clay loam
Bg—52 to 60 inches; silty clay loam

Klossner, ponded
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Muck
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Organic material over till
Flooding: None
Wet zone: At the surface all year
Shallowest ponding: 0.5 foot (August)
Deepest ponding: 3.0 feet (March, April, May)
Available water capacity to a depth of 60 inches: 17.4 inches
Content of organic matter in the upper 10 inches: 42.5 percent
Typical profile:
Oa—0 to 26 inches; muck
2A1—26 to 33 inches; silt loam
2A2—33 to 40 inches; loam
2Cg—40 to 80 inches; loam

L152B—Lowlein-Round Lake complex, 1 to 6 percent slopes

Component Description

Lowlein and similar soils
Extent: 35 to 70 percent of the mapped areas
Geomorphic setting: Hills on moraines; stream terraces
Position on the landform: Backslopes and summits
Slope range: 1 to 5 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Outwash over till; outwash over lacustrine sediments
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: 3.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 8.8 inches

Content of organic matter in the upper 10 inches: 3.5 percent
Typical profile:
Ap,A—0 to 14 inches; loam
Bw1—14 to 24 inches; loam
Bw2—24 to 31 inches; loamy sand
2C—31 to 60 inches; loam

Round Lake and similar soils
Extent: 15 to 40 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and summits
Slope range: 2 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Outwash over till; outwash over lacustrine sediments
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September, October)
Ponding: None
Available water capacity to a depth of 60 inches: 5.5 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap—0 to 11 inches; sandy loam
Bw—11 to 14 inches; sandy loam
2Bw—14 to 26 inches; loamy coarse sand
2Bk—26 to 35 inches; gravelly coarse sand
2C—35 to 48 inches; coarse sand
3Cg—48 to 80 inches; silt loam

Nicollet
Extent: 0 to 20 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 17 inches; clay loam
Bw,Bg1,Bg2—17 to 33 inches; clay loam
Bg3—33 to 36 inches; clay loam
Cg—36 to 60 inches; loam

Farrar
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes

Slope range: 1 to 6 percent
Texture of the surface layer: Fine sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.2 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
A—0 to 16 inches; fine sandy loam
Bw1—16 to 25 inches; fine sandy loam
2Bw2—25 to 41 inches; loam
2C—41 to 60 inches; loam

Webster
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 19 inches; clay loam
Bg—19 to 26 inches; clay loam
BCg,Cg—26 to 60 inches; loam

L153A—Essexville sandy loam, 0 to 2 percent slopes

Component Description

Essexville and similar soils
Extent: 75 to 90 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Rims of depressions; flats and beaches
Slope range: 0 to 2 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Glaciolacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None

Available water capacity to a depth of 60 inches: 8.8 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap—0 to 8 inches; sandy loam
A—8 to 13 inches; loamy sand
Bg—13 to 22 inches; sand
2Cg—22 to 60 inches; loam

Canisteo
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 18 inches; clay loam
Bkg—18 to 39 inches; loam
Cg—39 to 80 inches; loam

Glencoe, depressional
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 11.2 inches
Content of organic matter in the upper 10 inches: 7.5 percent
Typical profile:
Ap—0 to 10 inches; clay loam
A,ABg—10 to 35 inches; clay loam
Bg—35 to 48 inches; loam
Cg—48 to 60 inches; loam

Belleville
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Rims of depressions; flats and beaches
Slope range: 0 to 2 percent

Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Glaciolacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 2.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 8.4 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap—0 to 11 inches; sandy loam
Bg—11 to 27 inches; loamy sand
2Bg—27 to 48 inches; loam
2Cg—48 to 80 inches; loam

Very poorly drained soils in depressions
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 11.1 inches
Content of organic matter in the upper 10 inches: 7.5 percent
Typical profile:
Ap—0 to 13 inches; loam
A,Bg1—13 to 31 inches; clay loam
Bg2—31 to 45 inches; clay loam
Cg—45 to 80 inches; loam

Somewhat poorly drained soils
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Rises on beaches
Slope range: 0 to 3 percent
Texture of the surface layer: Loamy sand
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Outwash over till
Flooding: None
Shallowest depth to wet zone: 1.3 feet (April)
Deepest depth to wet zone: 3.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 8.4 inches
Content of organic matter in the upper 10 inches: 3.0 percent

Typical profile:
Ap—0 to 10 inches; loamy sand
Bw—10 to 24 inches; loamy sand
2Cg—24 to 80 inches; loam

L154E—Belview-Ridgeton complex, 15 to 45 percent slopes

Component Description

Belview and similar soils
Extent: 30 to 70 percent of the mapped areas
Geomorphic setting: Escarpments on moraines
Position on the landform: Backslopes and shoulders
Slope range: 18 to 45 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 3.7 percent
Typical profile:
A—0 to 9 inches; loam
Bk—9 to 50 inches; loam
C—50 to 60 inches; loam

Ridgeton and similar soils
Extent: 15 to 50 percent of the mapped areas
Geomorphic setting: Escarpments on moraines
Position on the landform: Backslopes and footslopes
Slope range: 15 to 40 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Colluvium over till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
A1,A2,A3—0 to 32 inches; loam
Bw—32 to 40 inches; loam
C1,C2—40 to 80 inches; loam

Omsrud
Extent: 5 to 25 percent of the mapped areas
Geomorphic setting: Escarpments on moraines
Position on the landform: Backslopes and summits
Slope range: 12 to 24 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)

Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
A—0 to 16 inches; loam
Bw—16 to 26 inches; loam
C—26 to 60 inches; loam

Delft
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Swales on moraines; drainageways on moraines
Slope range: 1 to 3 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 37 inches; loam
Bg—37 to 50 inches; clay loam
Cg—50 to 60 inches; loam

Terril
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Escarpments on moraines
Position on the landform: Footslopes
Slope range: 4 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September)
Ponding: None
Available water capacity to a depth of 60 inches: 11.3 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
A1,A2—0 to 24 inches; loam
AB—24 to 37 inches; loam
Bw—37 to 57 inches; loam
C—57 to 80 inches; loam

L155A—Okoboji mucky silty clay loam, ponded, 0 to 1 percent slopes

Component Description

Okoboji, ponded, and similar soils
Extent: 75 to 90 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Mucky silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Alluvium or lacustrine sediments over till
Flooding: None
Wet zone: At the surface all year
Shallowest ponding: 0.5 foot (August)
Deepest ponding: 3.0 feet (March, April, May)
Available water capacity to a depth of 60 inches: 11.9 inches
Content of organic matter in the upper 10 inches: 14.0 percent
Typical profile:
A1—0 to 10 inches; mucky silty clay loam
A2—10 to 52 inches; silty clay loam
Bg—52 to 60 inches; silty clay loam

Glencoe, ponded
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Mucky silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Till
Flooding: None
Wet zone: At the surface all year
Shallowest ponding: 0.5 foot (August)
Deepest ponding: 3.0 feet (March, April, May)
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 14.0 percent
Typical profile:
A—0 to 42 inches; mucky silty clay loam
Bg—42 to 50 inches; clay loam
Cg—50 to 60 inches; loam

Blue Earth, ponded
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Mucky silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Coprogenous earth over till
Flooding: None
Wet zone: At the surface all year

Shallowest ponding: 0.5 foot (August)
Deepest ponding: 3.0 feet (March, April, May)
Available water capacity to a depth of 60 inches: 12.6 inches
Content of organic matter in the upper 10 inches: 17.5 percent
Typical profile:
A—0 to 50 inches; mucky silt loam
Cg—50 to 60 inches; silt loam

Klossner, ponded
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Muck
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Organic material over till
Flooding: None
Wet zone: At the surface all year
Shallowest ponding: 0.5 foot (August)
Deepest ponding: 3.0 feet (March, April, May)
Available water capacity to a depth of 60 inches: 17.4 inches
Content of organic matter in the upper 10 inches: 42.5 percent
Typical profile:
Oa—0 to 26 inches; muck
2A1—26 to 33 inches; silt loam
2A2—33 to 40 inches; loam
2Cg—40 to 80 inches; loam

L156C2—Omsrud-Storden-Pilot Grove complex, 6 to 12 percent slopes, moderately eroded

Component Description

Omsrud, moderately eroded, and similar soils
Extent: 30 to 50 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and shoulders
Slope range: 6 to 12 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 2.9 percent
Typical profile:
Ap—0 to 9 inches; loam
Bw—9 to 19 inches; clay loam
Bk—19 to 36 inches; loam
C—36 to 80 inches; loam

Storden, moderately eroded, and similar soils
Extent: 15 to 50 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Shoulders and backslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:
Ap—0 to 7 inches; loam
Bk—7 to 55 inches; loam
C—55 to 80 inches; loam

Pilot Grove and similar soils
Extent: 15 to 25 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Outwash over till
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.3 inches
Content of organic matter in the upper 10 inches: 2.8 percent
Typical profile:
Ap,A—0 to 9 inches; sandy loam
Bw—9 to 17 inches; sandy loam
2BC—17 to 21 inches; loamy sand
2C—21 to 58 inches; gravelly coarse sand
3C—58 to 80 inches; loam

Hawick
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Shoulders and backslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Gravelly sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 2.7 inches
Content of organic matter in the upper 10 inches: 1.5 percent

Typical profile:
Ap—0 to 7 inches; gravelly sandy loam
Bw,C—7 to 80 inches; gravelly coarse sand

Delft
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Drainageways and swales
Slope range: 1 to 3 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 37 inches; loam
Bg—37 to 50 inches; clay loam
Cg—50 to 60 inches; loam

Terril
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Footslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
Ap,A1—0 to 27 inches; loam
A2,BA—27 to 40 inches; loam
Bw—40 to 63 inches; loam
C—63 to 80 inches; loam

L156D2—Omsrud-Storden-Pilot Grove complex, 12 to 18 percent slopes, moderately eroded

Component Description

Omsrud, moderately eroded, and similar soils
Extent: 30 to 60 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and shoulders

Slope range: 12 to 18 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 2.9 percent
Typical profile:

Ap—0 to 9 inches; loam
Bw—9 to 19 inches; clay loam
Bk—19 to 36 inches; loam
C—36 to 80 inches; loam

Storden, moderately eroded, and similar soils
Extent: 15 to 30 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Shoulders and backslopes
Slope range: 12 to 18 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 10.5 inches
Content of organic matter in the upper 10 inches: 1.2 percent
Typical profile:

Ap—0 to 7 inches; loam
Bk—7 to 55 inches; loam
C—55 to 80 inches; loam

Pilot Grove and similar soils
Extent: 15 to 20 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 12 to 18 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Outwash over till
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.3 inches
Content of organic matter in the upper 10 inches: 2.8 percent
Typical profile:

Ap,A—0 to 9 inches; sandy loam
Bw—9 to 17 inches; sandy loam
2BC—17 to 21 inches; loamy sand
2C—21 to 58 inches; gravelly coarse sand
3C—58 to 80 inches; loam

Hawick
Extent: 0 to 20 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and shoulders
Slope range: 12 to 18 percent
Texture of the surface layer: Gravelly coarse sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 2.7 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
Ap—0 to 7 inches; gravelly coarse sandy loam
Bw,C—7 to 80 inches; gravelly coarse sand

Ridgeton
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Footslopes
Slope range: 9 to 14 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Colluvium over till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.2 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
Ap,A1—0 to 23 inches; loam
A2,AB—23 to 38 inches; loam
Bw—38 to 50 inches; loam
C—50 to 80 inches; loam

Delft
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Drainageways and swales
Slope range: 1 to 3 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 37 inches; loam

Bg—37 to 50 inches; clay loam
Cg—50 to 60 inches; loam

Terril
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Footslopes
Slope range: 4 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
Ap,A1—0 to 27 inches; loam
A2,BA—27 to 40 inches; loam
Bw—40 to 63 inches; loam
C—63 to 80 inches; loam

L157A—Lowlein loam, 0 to 2 percent slopes

Component Description

Lowlein and similar soils
Extent: 65 to 85 percent of the mapped areas
Geomorphic setting: Moraines; stream terraces
Position on the landform: Flats and rises
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Outwash over till; outwash over lacustrine sediments
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: 3.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 8.8 inches
Content of organic matter in the upper 10 inches: 3.5 percent
Typical profile:
Ap,A—0 to 14 inches; loam
Bw1—14 to 24 inches; loam
Bw2—24 to 31 inches; loamy sand
2C—31 to 60 inches; loam

Nicollet
Extent: 0 to 20 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent

Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 17 inches; clay loam
Bw,Bg1,Bg2—17 to 33 inches; clay loam
Bg3—33 to 36 inches; clay loam
Cg—36 to 60 inches; loam

Round Lake
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Outwash over lacustrine silty sediments
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September, October)
Ponding: None
Available water capacity to a depth of 60 inches: 5.5 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap—0 to 11 inches; sandy loam
Bw—11 to 14 inches; sandy loam
2Bw—14 to 26 inches; loamy coarse sand
2Bk—26 to 35 inches; gravelly coarse sand
2C—35 to 48 inches; coarse sand
3Cg—48 to 80 inches; silt loam

Webster
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 5.5 percent

Typical profile:
Ap,A—0 to 19 inches; clay loam
Bg—19 to 26 inches; clay loam
BCg,Cg—26 to 60 inches; loam

Farrar
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and summits
Slope range: 1 to 6 percent
Texture of the surface layer: Fine sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.2 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
A—0 to 16 inches; fine sandy loam
Bw1—16 to 25 inches; fine sandy loam
2Bw2—25 to 41 inches; loam
2C—41 to 60 inches; loam

L158B—Round Lake sandy loam, 1 to 6 percent slopes

Component Description

Round Lake and similar soils
Extent: 70 to 85 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and summits
Slope range: 1 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Outwash over lacustrine silty sediments
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September, October)
Ponding: None
Available water capacity to a depth of 60 inches: 5.5 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap—0 to 11 inches; sandy loam
Bw—11 to 14 inches; sandy loam
2Bw—14 to 26 inches; loamy coarse sand
2Bk—26 to 35 inches; gravelly coarse sand
2C—35 to 48 inches; coarse sand
3Cg—48 to 80 inches; silt loam

Lowlein
Extent: 5 to 20 percent of the mapped areas
Geomorphic setting: Stream terraces; moraines
Position on the landform: Flats and rises
Slope range: 0 to 2 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Outwash over till; outwash over lacustrine silty sediments
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: 3.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 8.8 inches
Content of organic matter in the upper 10 inches: 3.5 percent
Typical profile:
Ap,A—0 to 14 inches; sandy loam
Bw1—14 to 24 inches; sandy loam
Bw2—24 to 31 inches; loamy sand
2C—31 to 60 inches; loam

Ocheyedan
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 2 to 4 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loamy and silty sediments
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 11.5 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap—0 to 10 inches; loam
Bw1,Bw2—10 to 30 inches; loam
2C1,2C2—30 to 60 inches; stratified loam to silt loam

Estherville
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Hills on outwash plains; hills on terraces
Position on the landform: Backslopes and summits
Slope range: 2 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.1 inches

Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,A—0 to 13 inches; sandy loam
Bw1—13 to 18 inches; sandy loam
2Bw2—18 to 23 inches; loamy coarse sand
2C—23 to 60 inches; gravelly coarse sand

Webster
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 19 inches; clay loam
Bg—19 to 26 inches; clay loam
BCg,Cg—26 to 60 inches; loam

L159A—Knoke mucky silty clay loam, depressional, 0 to 1 percent slopes

Component Description

Knoke, depressional, and similar soils
Extent: 70 to 90 percent of the mapped areas
Geomorphic setting: Lake plains; moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Mucky silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Lacustrine sediments
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 12.6 inches
Content of organic matter in the upper 10 inches: 14.0 percent
Typical profile:
Ap—0 to 10 inches; mucky silty clay loam
A—10 to 42 inches; silty clay loam
Cg—42 to 80 inches; silty clay loam

Okoboji, depressional
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 12.1 inches
Content of organic matter in the upper 10 inches: 7.7 percent
Typical profile:
Ap,A—0 to 26 inches; silty clay loam
Bg—26 to 42 inches; silty clay
Cg—42 to 60 inches; silty clay loam

Essexville
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Rims, flats, and beaches
Slope range: 0 to 2 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Glaciolacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 8.8 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap—0 to 8 inches; sandy loam
A—8 to 13 inches; loamy sand
Bg—13 to 22 inches; sand
2Cg—22 to 60 inches; loam

Canisteo
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)

Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 18 inches; clay loam
Bkg—18 to 39 inches; loam
Cg—39 to 80 inches; loam

Canisteo, depressional
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 17 inches; silty clay loam
Bg—17 to 30 inches; silty clay loam
2Cg—30 to 60 inches; loam

L160B—Dickinson sandy loam, loamy substratum, 1 to 6 percent slopes

Component Description

Dickinson, loamy substratum, and similar soils
Extent: 70 to 90 percent of the mapped areas
Geomorphic setting: Hills on outwash plains; hills on moraines
Position on the landform: Summits and backslopes
Slope range: 1 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.1 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
Ap,AB—0 to 16 inches; sandy loam
Bw—16 to 30 inches; fine sandy loam
C1—30 to 47 inches; loamy sand
C2—47 to 76 inches; sand
2C—76 to 80 inches; loam

Farrar
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and summits
Slope range: 1 to 6 percent
Texture of the surface layer: Fine sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.2 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
Ap—0 to 16 inches; fine sandy loam
Bw1—16 to 25 inches; fine sandy loam
2Bw2—25 to 41 inches; loam
2C—41 to 60 inches; loam

Lowlein
Extent: 0 to 15 percent of the mapped areas
Geomorphic setting: Stream terraces; moraines
Position on the landform: Flats and rises
Slope range: 0 to 2 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Outwash over till; outwash over lacustrine sediments
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: 3.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 8.8 inches
Content of organic matter in the upper 10 inches: 3.5 percent
Typical profile:
Ap,A—0 to 14 inches; sandy loam
Bw1—14 to 24 inches; sandy loam
Bw2—24 to 31 inches; loamy sand
2C—31 to 60 inches; loam

L161C—Estherville-Pilot Grove complex, 6 to 12 percent slopes

Component Description

Estherville and similar soils
Extent: 15 to 65 percent of the mapped areas
Geomorphic setting: Hills on outwash plains; hills on stream terraces
Position on the landform: Backslopes and summits
Slope range: 6 to 12 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)

Drainage class: Somewhat excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.1 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,A—0 to 13 inches; sandy loam
Bw1—13 to 18 inches; sandy loam
2Bw2—18 to 23 inches; loamy coarse sand
2C—23 to 60 inches; gravelly coarse sand

Pilot Grove and similar soils
Extent: 15 to 65 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and summits
Slope range: 6 to 12 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Outwash over till
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.8 inches
Content of organic matter in the upper 10 inches: 2.8 percent
Typical profile:
Ap—0 to 9 inches; sandy loam
Bw—9 to 17 inches; sandy loam
2Bw—17 to 22 inches; loamy coarse sand
2C1—22 to 39 inches; gravelly coarse sand
2C2—39 to 55 inches; gravelly coarse sand
3C—55 to 80 inches; silt loam

Well drained soils
Extent: 5 to 20 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and shoulders
Slope range: 6 to 12 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 3.8 percent
Typical profile:
Ap—0 to 8 inches; loam
Bw—8 to 28 inches; loam
2C—28 to 80 inches; stratified loam to silt loam

Hawick
Extent: 0 to 10 percent of the mapped areas

Geomorphic setting: Hills on outwash plains; hills on stream terraces
Position on the landform: Backslopes, summits, and shoulders
Slope range: 6 to 12 percent
Texture of the surface layer: Gravelly sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 2.7 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
Ap—0 to 7 inches; gravelly sandy loam
Bw,C—7 to 80 inches; gravelly coarse sand

Delft
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Drainageways and swales
Slope range: 1 to 3 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 37 inches; loam
Bg—37 to 50 inches; clay loam
Cg—50 to 60 inches; loam

Terril
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Footslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Colluvium over till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
Ap,A1—0 to 27 inches; loam
A2,BA—27 to 40 inches; loam

Bw—40 to 63 inches; loam
C—63 to 80 inches; loam

L162B—Clarion-Round Lake complex, 2 to 6 percent slopes

Component Description

Clarion and similar soils
Extent: 40 to 60 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 2 to 5 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 14 inches; loam
Bw—14 to 33 inches; loam
Bk—33 to 60 inches; loam

Round Lake and similar soils
Extent: 15 to 50 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Outwash over till or lacustrine silty sediments
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September, October)
Ponding: None
Available water capacity to a depth of 60 inches: 5.5 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap—0 to 11 inches; sandy loam
Bw—11 to 14 inches; sandy loam
2Bw—14 to 26 inches; loamy coarse sand
2Bk—26 to 35 inches; gravelly coarse sand
2C—35 to 48 inches; coarse sand
3Cg—48 to 80 inches; silt loam

Estherville
Extent: 0 to 20 percent of the mapped areas

Geomorphic setting: Hills on moraines
Position on the landform: Backslopes and summits
Slope range: 2 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.1 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,A—0 to 13 inches; sandy loam
Bw1—13 to 18 inches; sandy loam
2Bw2—18 to 23 inches; loamy coarse sand
2C—23 to 60 inches; gravelly coarse sand

Lowlein
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 0 to 2 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Outwash over till; outwash over lacustrine sediments
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: 3.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 8.8 inches
Content of organic matter in the upper 10 inches: 3.5 percent
Typical profile:
Ap,A—0 to 14 inches; sandy loam
Bw1—14 to 24 inches; sandy loam
Bw2—24 to 31 inches; loamy sand
2C—31 to 60 inches; loam

Nicollet
Extent: 5 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rises
Slope range: 1 to 3 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: More than 5.0 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:
Ap,A—0 to 17 inches; clay loam
Bw,Bg1,Bg2—17 to 33 inches; clay loam
Bg3—33 to 36 inches; clay loam
Cg—36 to 60 inches; loam

Swanlake
Extent: 5 to 10 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Shoulders
Slope range: 3 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 5.0 feet (January, February, July, August, September, October, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 2.8 percent
Typical profile:
Ap—0 to 9 inches; loam
Bk—9 to 43 inches; loam
C—43 to 60 inches; loam

Webster
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 19 inches; clay loam
Bg—19 to 26 inches; clay loam
BCg,Cg—26 to 60 inches; loam

L163A—Okoboji silty clay loam, depressional, 0 to 1 percent slopes

Component Description

Okoboji, depressional, and similar soils
Extent: 70 to 95 percent of the mapped areas
Geomorphic setting: Lake plains; moraines

Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 12.1 inches
Content of organic matter in the upper 10 inches: 7.7 percent
Typical profile:
Ap,A—0 to 26 inches; silty clay loam
Bg—26 to 42 inches; silty clay
Cg—42 to 60 inches; silty clay loam

Canisteo
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.0 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 17 inches; silty clay loam
Bg—17 to 27 inches; silty clay loam
Cg—27 to 60 inches; loam

Harpster
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Lake plains
Position on the landform: Rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)

Ponding: None
Available water capacity to a depth of 60 inches: 12.5 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,Ak—0 to 10 inches; silty clay loam
Bkg—10 to 18 inches; silty clay loam
Bg,Cg1,Cg2—18 to 40 inches; silt loam
Cg3—40 to 60 inches; silt loam

Knoke, depressional
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Depressions
Slope range: 0 to 1 percent
Texture of the surface layer: Mucky silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Very poorly drained
Parent material: Lacustrine sediments
Flooding: None
Shallowest depth to wet zone: At the surface (March, April)
Deepest depth to wet zone: 2.0 feet (February, August)
Months in which ponding does not occur: January, February, May, June, July, August, September, October, November, December
Deepest ponding: 1.0 foot (April)
Available water capacity to a depth of 60 inches: 12.6 inches
Content of organic matter in the upper 10 inches: 14.0 percent
Typical profile:
Ap—0 to 10 inches; mucky silty clay loam
A—10 to 42 inches; silty clay loam
Cg—42 to 80 inches; silty clay loam

Prinsburg
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Moraines; lake plains
Position on the landform: Flats and rims of depressions
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Lacustrine sediments over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.5 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A—0 to 19 inches; silty clay loam
Bkg—19 to 29 inches; silt loam
Bg,Cg—29 to 46 inches; silt loam
2Cg—46 to 60 inches; loam

L170B—Estherville-Round Lake complex, 2 to 6 percent slopes

Component Description

Estherville and similar soils
Extent: 35 to 70 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 5.0 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.1 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,A—0 to 13 inches; sandy loam
Bw1—13 to 18 inches; sandy loam
2Bw2—18 to 23 inches; loamy coarse sand
2C—23 to 60 inches; gravelly coarse sand

Round Lake and similar soils
Extent: 15 to 50 percent of the mapped areas
Geomorphic setting: Hills on moraines
Position on the landform: Summits and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Outwash lacustrine silty sediments
Flooding: None
Shallowest depth to wet zone: 3.6 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September, October)
Ponding: None
Available water capacity to a depth of 60 inches: 5.5 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap—0 to 11 inches; sandy loam
Bw—11 to 14 inches; sandy loam
2Bw—14 to 26 inches; loamy coarse sand
2Bk—26 to 35 inches; gravelly coarse sand
2C—35 to 48 inches; coarse sand
3Cg—48 to 80 inches; silt loam

Lowlein
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Stream terraces; moraines
Position on the landform: Flats and rises
Slope range: 0 to 3 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)

Drainage class: Moderately well drained
Parent material: Outwash over lacustrine silty sediments
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: 3.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 8.8 inches
Content of organic matter in the upper 10 inches: 3.5 percent
Typical profile:
Ap,A—0 to 14 inches; sandy loam
Bw1—14 to 24 inches; sandy loam
Bw2—24 to 31 inches; loamy sand
2C—31 to 60 inches; loam

Poorly drained soils
Extent: 0 to 5 percent of the mapped areas
Geomorphic setting: Moraines
Position on the landform: Flats and swales
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 7.0 inches
Content of organic matter in the upper 10 inches: 5.5 percent
Typical profile:
Ap,A—0 to 22 inches; clay loam
Bg—22 to 30 inches; clay loam
2C—30 to 57 inches; coarse sand
3Cg—57 to 80 inches; loam

M-W—Water, miscellaneous

This map unit consists of bodies of water that are constructed, such as sewage lagoons, stormwater sediment basins with a permanent pool of water, and aquaculture ponds.

P1B—Annieville silty clay loam, 2 to 5 percent slopes

Component Description

Annieville and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits, backslopes, and shoulders
Slope range: 2 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess over till

Flooding: None
Shallowest depth to wet zone: 4.0 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 11.2 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A,AB—0 to 11 inches; silty clay loam
Bw1-Bw3—11 to 52 inches; silty clay loam
2BC1—52 to 57 inches; sandy loam
2BC2,2BC3—57 to 80 inches; clay loam

McCreath
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.1 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A1,A2—0 to 17 inches; silty clay loam
Bw1,Bw2—17 to 35 inches; silty clay loam
Bk—35 to 44 inches; silt loam
2BC—44 to 49 inches; gravelly loam
2C—49 to 80 inches; clay loam

Galva
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Backslopes, summits, and shoulders
Slope range: 2 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.6 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 11 inches; silty clay loam
BA,Bw1,Bw2—11 to 31 inches; silty clay loam
BC—31 to 45 inches; silt loam
C—45 to 60 inches; silt loam

Primghar
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.8 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A1,A2—0 to 21 inches; silty clay loam
Bw1-Bw3—21 to 42 inches; silty clay loam
C—42 to 60 inches; silty clay loam

P2A—McCreath silty clay loam, 1 to 3 percent slopes

Component Description

McCreath and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.1 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A1,A2—0 to 17 inches; silty clay loam
Bw1,Bw2—17 to 35 inches; silty clay loam
Bk—35 to 44 inches; silt loam
2BC—44 to 49 inches; gravelly loam
2C—49 to 80 inches; clay loam

Gillett Grove
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained

Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.1 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1,A2—0 to 17 inches; silty clay loam
BA,Bg1-Bg3—17 to 44 inches; silty clay loam
BCg—44 to 57 inches; silt loam
2Cg—57 to 80 inches; loam

Annieville
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 2 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 11.2 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A,AB—0 to 11 inches; silty clay loam
Bw1-Bw3—11 to 52 inches; silty clay loam
2BC1—52 to 57 inches; sandy loam
2BC2,2BC3—57 to 80 inches; clay loam

Primghar
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.8 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A1,A2—0 to 21 inches; silty clay loam
Bw1-Bw3—21 to 42 inches; silty clay loam
C—42 to 60 inches; silty clay loam

P3A—Biscay silty clay loam, 0 to 2 percent slopes, occasionally flooded

Component Description

Biscay, occasionally flooded, and similar soils
Extent: 80 to 90 percent of the mapped areas
Geomorphic setting: Flats on outwash plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Outwash
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 2.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 6.9 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1—0 to 16 inches; silty clay loam
A2—16 to 21 inches; clay loam
Bg—21 to 31 inches; clay loam
2Cg—31 to 60 inches; coarse sand

Cylinder, occasionally flooded
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Flats on outwash plains
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Alluvium over outwash
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 1.3 feet (April)
Deepest depth to wet zone: 3.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 6.5 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A1,A2—0 to 18 inches; loam
Bw1,Bw2—18 to 28 inches; loam
2BC—28 to 39 inches; gravelly sand
2C1,2C2—39 to 60 inches; gravelly sand

Talcot, occasionally flooded
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Flats on outwash plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)

Drainage class: Poorly drained
Parent material: Alluvium over outwash
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 2.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 7.3 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1,A2—0 to 22 inches; silty clay loam
Bg—22 to 33 inches; silty clay loam
2Cg—33 to 60 inches; coarse sand

P7A—Comfrey clay loam, 0 to 2 percent slopes, occasionally flooded

Component Description

Comfrey, occasionally flooded, and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.0 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
A1,A2—0 to 26 inches; clay loam
Bg—26 to 35 inches; clay loam
BCg,Cg—35 to 60 inches; clay loam

Colo, occasionally flooded
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)

Ponding: None
Available water capacity to a depth of 60 inches: 12.4 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1-A3—0 to 34 inches; silty clay loam
BA,Bg—34 to 52 inches; silty clay loam
Cg—52 to 60 inches; silt loam

Havelock, occasionally flooded
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1,A2—0 to 32 inches; clay loam
Bg—32 to 60 inches; clay loam

Havelock, frequently flooded
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Frequent (March, April, May, June)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
A1,A2—0 to 32 inches; clay loam
Cg—32 to 60 inches; clay loam

Spillco, occasionally flooded
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Alluvium

Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.0 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
A1—0 to 10 inches; silt loam
A2—10 to 22 inches; silt loam
A3,A4,C—22 to 60 inches; loam

P9A—Gillett Grove silty clay loam, 0 to 2 percent slopes

Component Description

Gillett Grove and similar soils
Extent: 80 to 90 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.1 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1,A2—0 to 17 inches; silty clay loam
BA,Bg1-Bg3—17 to 44 inches; silty clay loam
BCg—44 to 57 inches; silt loam
2Cg—57 to 80 inches; loam

McCreath
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.1 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A1,A2—0 to 17 inches; silty clay loam

Bw1,Bw2—17 to 35 inches; silty clay loam
Bk—35 to 44 inches; silt loam
2BC—44 to 49 inches; gravelly loam
2C—49 to 80 inches; clay loam

Afton, frequently flooded
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, March, July, August, September, October, November, December
Highest frequency of flooding: Frequent (April, May, June)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.0 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1-A3—0 to 32 inches; silty clay loam
Bg1,Bg2—32 to 43 inches; silty clay loam
2Cg1-2Cg4—43 to 80 inches; silty clay loam

P12B—Everly silty clay loam, 2 to 6 percent slopes

Component Description

Everly and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.8 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 18 inches; silty clay loam
2Bk,2BC—18 to 80 inches; clay loam

Sac
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains

Position on the landform: Backslopes and summits
Slope range: 2 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 11 inches; silty clay loam
BA,Bw1—11 to 28 inches; silty clay loam
2Bw2—28 to 33 inches; clay loam
2BCk,2BC—33 to 60 inches; clay loam

Ransom
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A,AB—0 to 16 inches; silty clay loam
Bw1-Bw3—16 to 33 inches; silty clay loam
2BCk,2BC—33 to 80 inches; clay loam

Wilmonton
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.0 percent

Typical profile:
Ap,A—0 to 15 inches; silty clay loam
Bw—15 to 20 inches; loam
2Bw—20 to 25 inches; clay loam
2Bk—25 to 55 inches; clay loam
2BC1,2BC2—55 to 80 inches; clay loam

P12C2—Everly silty clay loam, 6 to 12 percent slopes, moderately eroded

Component Description

Everly, moderately eroded, and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, May, June, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.7 inches
Content of organic matter in the upper 10 inches: 3.1 percent
Typical profile:
Ap—0 to 7 inches; silty clay loam
Bw—7 to 16 inches; silty clay loam
2Bk,2BC—16 to 80 inches; clay loam

Everly
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, May, June, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.8 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 18 inches; silty clay loam
2Bk,2BC—18 to 80 inches; clay loam

Moneta
Extent: 0 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits and shoulders
Slope range: 8 to 15 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 9.6 inches
Content of organic matter in the upper 10 inches: 1.9 percent
Typical profile:
A—0 to 9 inches; clay loam
BA—9 to 13 inches; clay loam
Bk1-Bk3,BC1—13 to 53 inches; clay loam
BC2—53 to 80 inches; clay loam

Wilmonton
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A—0 to 15 inches; silty clay loam
Bw—15 to 20 inches; loam
2Bw—20 to 25 inches; clay loam
2Bk—25 to 55 inches; clay loam
2BC1,2BC2—55 to 80 inches; clay loam

P15B—Galva silty clay loam, 2 to 5 percent slopes

Component Description

Galva and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Shoulders, backslopes, and summits
Slope range: 2 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess

Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.6 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 11 inches; silty clay loam
BA,Bw1,Bw2—11 to 31 inches; silty clay loam
BC—31 to 45 inches; silt loam
C—45 to 60 inches; silt loam

Primghar
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.8 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A1,A2—0 to 21 inches; silty clay loam
Bw1-Bw3—21 to 42 inches; silty clay loam
C—42 to 60 inches; silty clay loam

Annieville
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Backslopes, shoulders, and summits
Slope range: 2 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 11.2 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A,AB—0 to 11 inches; silty clay loam
Bw1-Bw3—11 to 52 inches; silty clay loam
2BC1—52 to 57 inches; sandy loam
2BC2,2BC3—57 to 80 inches; clay loam

Sac
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains

Position on the landform: Summits, shoulders, and backslopes
Slope range: 2 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 11 inches; silty clay loam
BA,Bw1—11 to 28 inches; silty clay loam
2Bw2—28 to 33 inches; clay loam
2BCk,2BC—33 to 60 inches; clay loam

P20B—Judson silt loam, 3 to 8 percent slopes

Component Description

Judson and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 3 to 8 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Colluvium
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 12.5 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A—0 to 36 inches; silt loam
Bw1,Bw2—36 to 56 inches; silty clay loam
C—56 to 60 inches; silty clay loam

Primghar
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None

Available water capacity to a depth of 60 inches: 11.8 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A1,A2—0 to 21 inches; silty clay loam
Bw1-Bw3—21 to 42 inches; silty clay loam
C—42 to 60 inches; silty clay loam

Galva
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Backslopes, shoulders, and summits
Slope range: 2 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.6 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 11 inches; silty clay loam
BA,Bw1,Bw2—11 to 31 inches; silty clay loam
BC—31 to 45 inches; silt loam
C—45 to 60 inches; silt loam

Whitewood, overwash
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Alluvium
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.3 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1,A2—0 to 48 inches; silty clay loam
Bkg—48 to 70 inches; silty clay loam
Cg—70 to 80 inches; silty clay loam

P21A—Marcus silty clay loam, 0 to 2 percent slopes

Component Description

Marcus and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes

Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.1 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1,A2—0 to 17 inches; silty clay loam
BA,Bg1-Bg3—17 to 44 inches; silty clay loam
Cg1—44 to 57 inches; silt loam
2Cg2—57 to 60 inches; loam

Whitewood, frequently flooded
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, March, July, August, September, October, November, December
Highest frequency of flooding: Frequent (April, May, June)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.9 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,Bw—0 to 25 inches; silty clay loam
Bg1,Bg2—25 to 43 inches; silty clay loam
Bkg—43 to 60 inches; silty clay loam

Primghar
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.8 inches
Content of organic matter in the upper 10 inches: 5.0 percent

Typical profile:
Ap,A1,A2—0 to 21 inches; silty clay loam
Bw1-Bw3—21 to 42 inches; silty clay loam
C—42 to 60 inches; silty clay loam

Spicer
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,AB—0 to 17 inches; silty clay loam
Bg1,Bg2—17 to 35 inches; silty clay loam
Cg—35 to 60 inches; silty clay loam

P27A—Primghar silty clay loam, 1 to 3 percent slopes

Component Description

Primghar and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.8 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A1,A2—0 to 21 inches; silty clay loam
Bw1-Bw3—21 to 42 inches; silty clay loam
C—42 to 60 inches; silty clay loam

Galva
Extent: 5 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 2 to 5 percent
Texture of the surface layer: Silty clay loam

Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 11.6 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 11 inches; silty clay loam
BA,Bw1,Bw2—11 to 31 inches; silty clay loam
BC—31 to 45 inches; silt loam
C—45 to 60 inches; silt loam

Marcus
Extent: 5 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.1 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1,A2—0 to 17 inches; silty clay loam
BA,Bg1-Bg3—17 to 44 inches; silty clay loam
Cg1—44 to 57 inches; silt loam
2Cg2—57 to 60 inches; loam

Judson
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Colluvium
Flooding: None
Shallowest depth to wet zone: 3.9 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, July, August, September)
Ponding: None
Available water capacity to a depth of 60 inches: 12.3 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A1,A2—0 to 22 inches; silty clay loam
AB,Bw—22 to 35 inches; silty clay loam
BC,C—35 to 60 inches; silty clay loam

P28A—Ransom silty clay loam, 1 to 3 percent slopes

Component Description

Ransom and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A,AB—0 to 16 inches; silty clay loam
Bw1-Bw3—16 to 33 inches; silty clay loam
2BCk,2BC—33 to 80 inches; clay loam

Rushmore
Extent: 5 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,AB—0 to 18 inches; silty clay loam
Bg1,Bg2—18 to 24 inches; silty clay loam
BCg—24 to 32 inches; silty clay loam
2BCkg,2BCg—32 to 80 inches; clay loam

Sac
Extent: 5 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Shoulders, backslopes, and summits
Slope range: 2 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)

Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 11 inches; silty clay loam
BA,Bw1—11 to 28 inches; silty clay loam
2Bw2—28 to 33 inches; clay loam
2BCk,2C—33 to 60 inches; clay loam

Primghar
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.8 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A1,A2—0 to 21 inches; silty clay loam
Bw1-Bw3—21 to 42 inches; silty clay loam
C—42 to 60 inches; silty clay loam

P29A—Rushmore silty clay loam, 0 to 2 percent slopes

Component Description

Rushmore and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,AB—0 to 18 inches; silty clay loam
Bg1,Bg2—18 to 24 inches; silty clay loam
BCg—24 to 32 inches; silty clay loam
2BCkg,2BCg—32 to 80 inches; clay loam

Ransom
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A,AB—0 to 16 inches; silty clay loam
Bw1-Bw3—16 to 33 inches; silty clay loam
2BCk,2BC—33 to 80 inches; clay loam

Whitewood, frequently flooded
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, March, July, August, September, October, November, December
Highest frequency of flooding: Frequent (April, May, June)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.9 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,Bw—0 to 25 inches; silty clay loam
Bg1,Bg2—25 to 43 inches; silty clay loam
Bkg—43 to 60 inches; silty clay loam

P30B—Sac silty clay loam, 2 to 5 percent slopes

Component Description

Sac and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 2 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess over till

Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 11 inches; silty clay loam
BA,Bw1—11 to 28 inches; silty clay loam
2Bw2—28 to 33 inches; clay loam
2BCk,2BC—33 to 60 inches; clay loam

Annieville
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Shoulders, backslopes, and summits
Slope range: 2 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 11.2 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A,AB—0 to 11 inches; silty clay loam
Bw1-Bw3—11 to 52 inches; silty clay loam
2BC1—52 to 57 inches; sandy loam
2BC2,2BC3—57 to 80 inches; clay loam

Primghar
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.8 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A1,A2—0 to 21 inches; silty clay loam
Bw1-Bw3—21 to 42 inches; silty clay loam
C—42 to 60 inches; silty clay loam

Ransom
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A,AB—0 to 16 inches; silty clay loam
Bw1-Bw3—16 to 33 inches; silty clay loam
2BCk,2BC—33 to 80 inches; clay loam

P31A—Spicer silty clay loam, 0 to 2 percent slopes

Component Description

Spicer and similar soils
Extent: 80 to 90 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Loess
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,AB—0 to 17 inches; silty clay loam
Bg1,Bg2—17 to 35 inches; silty clay loam
Cg—35 to 60 inches; silty clay loam

Marcus
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Loess
Flooding: None

Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.1 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1,A2—0 to 17 inches; silty clay loam
BA,Bg1-Bg3—17 to 44 inches; silty clay loam
Cg1—44 to 57 inches; silt loam
2Cg2—57 to 60 inches; loam

Whitewood
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.9 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,Bw—0 to 25 inches; silty clay loam
Bg1,Bg2—25 to 43 inches; silty clay loam
Bkg—43 to 60 inches; silty clay loam

P33A—Spillco silt loam, 0 to 2 percent slopes, occasionally flooded

Component Description

Spillco, occasionally flooded, and similar soils
Extent: 80 to 90 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.0 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
A1—0 to 10 inches; silt loam

A2—10 to 22 inches; silt loam
A3,A4,C—22 to 60 inches; loam

Spillco, frequently flooded
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Frequent (March, April, May, June)
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.0 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
A1—0 to 15 inches; silt loam
A2,C1,C2—15 to 60 inches; loam

Comfrey, occasionally flooded
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.0 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
A1,A2—0 to 26 inches; clay loam
Bg—26 to 35 inches; clay loam
BCg,Cg—35 to 60 inches; clay loam

P36A—Talcot silty clay loam, 0 to 2 percent slopes, occasionally flooded

Component Description

Talcot, occasionally flooded, and similar soils
Extent: 80 to 90 percent of the mapped areas
Geomorphic setting: Flats on outwash plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)

Drainage class: Poorly drained
Parent material: Alluvium over outwash
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 2.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 7.3 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1,A2—0 to 22 inches; silty clay loam
Bg—22 to 33 inches; silty clay loam
2Cg—33 to 60 inches; coarse sand

Biscay, occasionally flooded
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Flats on outwash plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Outwash
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 2.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 6.9 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1—0 to 16 inches; silty clay loam
A2—16 to 21 inches; clay loam
Bg—21 to 31 inches; clay loam
2Cg—31 to 60 inches; coarse sand

Cylinder, occasionally flooded
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Flats on outwash plains
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Alluvium over outwash
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 1.3 feet (April)
Deepest depth to wet zone: 3.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 6.5 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A1,A2—0 to 18 inches; loam

Bw1,Bw2—18 to 28 inches; loam
2BC—28 to 39 inches; gravelly sand
2C1,2C2—39 to 60 inches; gravelly sand

P37D—Talmo gravelly sandy loam, 6 to 35 percent slopes

Component Description

Talmo and similar soils
Extent: 85 to 95 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 6 to 35 percent
Texture of the surface layer: Gravelly sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 2.5 inches
Content of organic matter in the upper 10 inches: 1.9 percent
Typical profile:
A—0 to 9 inches; gravelly sandy loam
AC—9 to 12 inches; gravelly loamy sand
C1,C2—12 to 60 inches; very gravelly sand

Kanaranzi
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Summits, backslopes, and shoulders
Slope range: 6 to 12 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.6 inches
Content of organic matter in the upper 10 inches: 3.7 percent
Typical profile:
Ap—0 to 7 inches; silt loam
BA,Bw—7 to 20 inches; loam
2C1-2C3—20 to 80 inches; gravelly coarse sand

Thurman
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Backslopes, shoulders, and summits
Slope range: 6 to 12 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Outwash

Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.7 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,A—0 to 10 inches; sandy loam
AC—10 to 20 inches; sandy loam
C1,C2—20 to 60 inches; sand

P38B—Thurman sandy loam, 2 to 6 percent slopes

Component Description

Thurman and similar soils
Extent: 85 to 95 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.6 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,A—0 to 13 inches; sandy loam
AC—13 to 18 inches; sandy loam
C1,C2—18 to 60 inches; sand

Henkin
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Backslopes, shoulders, and summits
Slope range: 2 to 6 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.2 inches
Content of organic matter in the upper 10 inches: 2.7 percent
Typical profile:
Ap—0 to 5 inches; loam
Bw1,Bw2—5 to 21 inches; sandy loam
Bk1,Bk2—21 to 48 inches; sandy loam
C—48 to 60 inches; stratified loamy sand to loam

P38C—Thurman sandy loam, 6 to 12 percent slopes

Component Description

Thurman and similar soils
Extent: 85 to 95 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.7 inches
Content of organic matter in the upper 10 inches: 3.0 percent
Typical profile:
Ap,A—0 to 10 inches; sandy loam
AC—10 to 20 inches; sandy loam
C1,C2—20 to 60 inches; sand

Henkin
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Shoulders, backslopes, and summits
Slope range: 6 to 9 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.2 inches
Content of organic matter in the upper 10 inches: 2.7 percent
Typical profile:
Ap—0 to 5 inches; loam
Bw1,Bw2—5 to 21 inches; sandy loam
Bk1,Bk2—21 to 48 inches; sandy loam
C—48 to 60 inches; stratified loamy sand

P43A—Wilmonton silty clay loam, 1 to 3 percent slopes

Component Description

Wilmonton and similar soils
Extent: 80 to 90 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam

Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A—0 to 15 inches; silty clay loam
Bw—15 to 20 inches; loam
2Bw—20 to 25 inches; clay loam
2Bk—25 to 55 inches; clay loam
2BC1,2BC2—55 to 80 inches; clay loam

Everly
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.8 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 18 inches; silty clay loam
2Bk,2BC—18 to 80 inches; clay loam

Ransom
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A,AB—0 to 16 inches; silty clay loam

Bw1-Bw3—16 to 33 inches; silty clay loam
2BCk,2BC—33 to 80 inches; clay loam

Rushmore
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Toeslopes
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A,AB—0 to 18 inches; silty clay loam
Bg1,Bg2—18 to 24 inches; silty clay loam
BCg—24 to 32 inches; silty clay loam
2BCkg,2BCg—32 to 80 inches; clay loam

P45E—Moneta clay loam, 15 to 45 percent slopes

Component Description

Moneta and similar soils
Extent: 80 to 90 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Shoulders and summits
Slope range: 15 to 45 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 9.6 inches
Content of organic matter in the upper 10 inches: 1.9 percent
Typical profile:
A—0 to 9 inches; clay loam
BA—9 to 13 inches; clay loam
Bk1-Bk3,BC1—13 to 53 inches; clay loam
BC2—53 to 80 inches; clay loam

Judson
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 3 to 8 percent
Texture of the surface layer: Silt loam

Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Colluvium
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 12.5 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A—0 to 36 inches; silt loam
Bw1,Bw2—36 to 56 inches; silty clay loam
C—56 to 60 inches; silty clay loam

Soils that are moderately deep to carbonates
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits and shoulders
Slope range: 15 to 45 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 9.6 inches
Content of organic matter in the upper 10 inches: 1.9 percent
Typical profile:
A—0 to 9 inches; clay loam
BA—9 to 20 inches; clay loam
Bk1-Bk3,BC—20 to 53 inches; clay loam
C—53 to 80 inches; clay loam

P48A—Allendorf silty clay loam, 0 to 2 percent slopes

Component Description

Allendorf and similar soils
Extent: 80 to 90 percent of the mapped areas
Geomorphic setting: Flats on outwash plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 14 inches; silty clay loam
Bw1-Bw3—14 to 34 inches; silty clay loam
2BC,2C—34 to 60 inches; very gravelly loamy coarse sand

Kanaranzi
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Summits, backslopes, and shoulders
Slope range: 2 to 6 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.6 inches
Content of organic matter in the upper 10 inches: 3.7 percent
Typical profile:
Ap—0 to 7 inches; silt loam
BA,Bw—7 to 20 inches; loam
2C1-2C3—20 to 80 inches; gravelly coarse sand

Moderately well drained soils
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Flats on outwash plains
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess over outwash
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 13 inches; silty clay loam
Bw1-Bw3—13 to 34 inches; silty clay loam
2BC,2C—34 to 60 inches; very gravelly loamy coarse sand

Sac
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Shoulders, summits, and backslopes
Slope range: 2 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 4.5 percent

Typical profile:
Ap,A—0 to 11 inches; silty clay loam
BA,Bw1—11 to 28 inches; silty clay loam
2Bw2—28 to 33 inches; clay loam
2BCk,2BC—33 to 60 inches; clay loam

P48B—Allendorf silty clay loam, 2 to 6 percent slopes

Component Description

Allendorf and similar soils
Extent: 80 to 90 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 13 inches; silty clay loam
Bw1-Bw3—13 to 34 inches; silty clay loam
2BC,2C—34 to 60 inches; very gravelly loamy coarse sand

Kanaranzi
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.6 inches
Content of organic matter in the upper 10 inches: 3.7 percent
Typical profile:
Ap—0 to 7 inches; silt loam
BA,Bw—7 to 20 inches; loam
2C1-2C3—20 to 80 inches; gravelly coarse sand

Moderately well drained soils
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Flats on outwash plains
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained

Parent material: Loess over outwash
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 13 inches; silty clay loam
Bw1-Bw3—13 to 34 inches; silty clay loam
2BC,2C—34 to 60 inches; very gravelly loamy coarse sand

Sac
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 2 to 5 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 10.7 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 11 inches; silty clay loam
BA,Bw1—11 to 28 inches; silty clay loam
2Bw2—28 to 33 inches; clay loam
2BCk,2BC—33 to 60 inches; clay loam

P49A—Comfrey clay loam, 0 to 2 percent slopes, frequently flooded

Component Description

Comfrey, frequently flooded, and similar soils
Extent: 80 to 90 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Frequent (March, April, May, June)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.4 inches

Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
A—0 to 40 inches; clay loam
Cg—40 to 60 inches; clay loam

Comfrey, occasionally flooded
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.0 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
A1,A2—0 to 26 inches; clay loam
Bg—26 to 35 inches; clay loam
BCg,Cg—35 to 60 inches; clay loam

Havelock, frequently flooded
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Frequent (March, April, May, June)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
A1,A2—0 to 32 inches; clay loam
Cg—32 to 60 inches; clay loam

Spillco, occasionally flooded
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December

Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.0 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
A1—0 to 10 inches; silt loam
A2—10 to 22 inches; silt loam
A3,A4,C—22 to 60 inches; loam

P50B—Everly-Kanaranzi complex, 2 to 6 percent slopes

Component Description

Everly and similar soils
Extent: 55 to 65 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.9 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 15 inches; silty clay loam
Bw—15 to 26 inches; silty clay loam
2Bw—26 to 44 inches; clay loam
2Bk,2BCk—44 to 80 inches; clay loam

Kanaranzi and similar soils
Extent: 20 to 30 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Backslopes, shoulders, and summits
Slope range: 2 to 6 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 4.9 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 10 inches; silt loam
Bw—10 to 16 inches; loam
2C—16 to 80 inches; very gravelly sand

Wilmonton
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A—0 to 15 inches; silty clay loam
Bw—15 to 20 inches; clay loam
2Bw—20 to 25 inches; clay loam
2Bk—25 to 55 inches; clay loam
2BC1,2BC2—55 to 80 inches; clay loam

Ransom
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.6 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A,AB—0 to 16 inches; silty clay loam
Bw1-Bw3—16 to 33 inches; silty clay loam
2BCk,2BC—33 to 80 inches; clay loam

P51C2—Everly-Moneta-Talmo complex, 6 to 12 percent slopes, moderately eroded

Component Description

Everly, moderately eroded, and similar soils
Extent: 35 to 45 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Backslopes and summits
Slope range: 6 to 12 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)

Drainage class: Well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, May, June, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.7 inches
Content of organic matter in the upper 10 inches: 3.4 percent
Typical profile:
Ap—0 to 8 inches; silty clay loam
Bw—8 to 26 inches; silty clay loam
2Bk,2BC—26 to 80 inches; clay loam

Moneta, moderately eroded, and similar soils
Extent: 15 to 25 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Shoulders
Slope range: 8 to 12 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 9.6 inches
Content of organic matter in the upper 10 inches: 1.7 percent
Typical profile:
Ap—0 to 8 inches; clay loam
Bk—8 to 38 inches; clay loam
BC—38 to 80 inches; clay loam

Talmo, moderately eroded, and similar soils
Extent: 15 to 25 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Summits and shoulders
Slope range: 6 to 12 percent
Texture of the surface layer: Gravelly sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 2.3 inches
Content of organic matter in the upper 10 inches: 1.3 percent
Typical profile:
A—0 to 6 inches; gravelly sandy loam
C—6 to 60 inches; very gravelly sand

Everly
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits and backslopes
Slope range: 2 to 6 percent

Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, May, June, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.8 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 18 inches; silty clay loam
2Bk,2BC—18 to 80 inches; clay loam

Kanaranzi
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Backslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.6 inches
Content of organic matter in the upper 10 inches: 3.7 percent
Typical profile:
Ap—0 to 7 inches; silt loam
BA,Bw—7 to 20 inches; loam
2C1-2C3—20 to 80 inches; very gravelly coarse sand

Wilmonton
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A—0 to 15 inches; silty clay loam
Bw—15 to 20 inches; clay loam
2Bw—20 to 25 inches; clay loam

2Bk—25 to 55 inches; clay loam
2BC1,2BC2—55 to 80 inches; clay loam

P52D2—Moneta-Everly-Talmo complex, 12 to 18 percent slopes, moderately eroded

Component Description

Moneta, moderately eroded, and similar soils
Extent: 35 to 45 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Shoulders
Slope range: 12 to 18 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 9.6 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
A—0 to 7 inches; clay loam
Bk—7 to 30 inches; clay loam
BCk—30 to 80 inches; clay loam

Everly, moderately eroded, and similar soils
Extent: 15 to 25 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Backslopes and summits
Slope range: 12 to 18 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, May, June, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.7 inches
Content of organic matter in the upper 10 inches: 3.4 percent
Typical profile:
Ap—0 to 8 inches; silty clay loam
Bw—8 to 16 inches; silty clay loam
2Bw—16 to 38 inches; clay loam
2Bk,2BC—38 to 80 inches; clay loam

Talmo, moderately eroded, and similar soils
Extent: 15 to 25 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Shoulders and summits
Slope range: 12 to 18 percent

Texture of the surface layer: Gravelly sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 2.4 inches
Content of organic matter in the upper 10 inches: 1.7 percent
Typical profile:
A—0 to 8 inches; gravelly sandy loam
C—8 to 60 inches; very gravelly sand

Everly
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, May, June, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.8 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 18 inches; silty clay loam
2Bk,2BC—18 to 80 inches; clay loam

Kanaranzi
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Backslopes
Slope range: 6 to 12 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.6 inches
Content of organic matter in the upper 10 inches: 3.7 percent
Typical profile:
Ap—0 to 7 inches; silt loam
BA,Bw—7 to 20 inches; loam
2C1-2C3—20 to 80 inches; very gravelly coarse sand

Wilmonton
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains

Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A—0 to 15 inches; silty clay loam
Bw—15 to 20 inches; clay loam
2Bw—20 to 25 inches; clay loam
2Bk—25 to 55 inches; clay loam
2BC1,2BC2—55 to 80 inches; clay loam

P53C2—Everly-Moneta complex, 6 to 12 percent slopes, moderately eroded

Component Description

Everly, moderately eroded, and similar soils
Extent: 50 to 60 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits and shoulders
Slope range: 6 to 12 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, May, June, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.8 inches
Content of organic matter in the upper 10 inches: 4.0 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 20 inches; silty clay loam
2Bk,2BC—20 to 80 inches; clay loam

Moneta, moderately eroded, and similar soils
Extent: 20 to 30 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Shoulders
Slope range: 8 to 12 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained

Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 9.6 inches
Content of organic matter in the upper 10 inches: 1.5 percent
Typical profile:
Ap—0 to 7 inches; clay loam
Bk—7 to 33 inches; clay loam
BC—33 to 80 inches; clay loam

Everly
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 4.0 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, May, June, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.8 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 18 inches; silty clay loam
2Bk,2BC—18 to 80 inches; clay loam

Wilmonton
Extent: 3 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A—0 to 15 inches; silty clay loam
Bw—15 to 20 inches; clay loam
2Bw—20 to 25 inches; clay loam
2Bk—25 to 55 inches; clay loam
2BC1,2BC2—55 to 80 inches; clay loam

P54D2—Moneta-Everly complex, 12 to 18 percent slopes, moderately eroded

Component Description

Moneta, moderately eroded, and similar soils
Extent: 40 to 50 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Shoulders
Slope range: 12 to 18 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Till
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 9.6 inches
Content of organic matter in the upper 10 inches: 1.9 percent
Typical profile:
A—0 to 9 inches; clay loam
BA—9 to 13 inches; clay loam
Bk1-Bk3,BC1—13 to 53 inches; clay loam
BC2—53 to 80 inches; clay loam

Everly, moderately eroded, and similar soils
Extent: 35 to 45 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Summits
Slope range: 12 to 18 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, May, June, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.8 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 15 inches; silty clay loam
2Bw—15 to 44 inches; clay loam
2Bk,2BC—44 to 80 inches; clay loam

Everly
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Silty clay loam

Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (January, February, March, May, June, July, August, September, October, November, December)
Ponding: None
Available water capacity to a depth of 60 inches: 9.8 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap—0 to 10 inches; silty clay loam
Bw—10 to 18 inches; silty clay loam
2Bk,2BC—18 to 80 inches; clay loam

Wilmonton
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on till plains
Position on the landform: Footslopes
Slope range: 1 to 3 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over till
Flooding: None
Shallowest depth to wet zone: 1.5 feet (April)
Deepest depth to wet zone: 5.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 10.9 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A—0 to 15 inches; silty clay loam
Bw—15 to 20 inches; clay loam
2Bw—20 to 25 inches; clay loam
2Bk—25 to 55 inches; clay loam
2BC1,2BC2—55 to 80 inches; clay loam

P55A—Kato silty clay loam, 0 to 2 percent slopes

Component Description

Kato and similar soils
Extent: 85 to 95 percent of the mapped areas
Geomorphic setting: Flats on outwash plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Loess over outwash
Flooding: None
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 2.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 7.8 inches
Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:
Ap,A,AB—0 to 21 inches; silty clay loam
Bg1,Bg2—21 to 31 inches; silty clay loam
2BCg—31 to 35 inches; sandy loam
2Cg1,2Cg2—35 to 60 inches; coarse sand

Somewhat poorly drained soils
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Flats on outwash plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Somewhat poorly drained
Parent material: Loess over outwash
Flooding: None
Shallowest depth to wet zone: 1.3 feet (April)
Deepest depth to wet zone: 3.0 feet (August)
Ponding: None
Available water capacity to a depth of 60 inches: 7.8 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
Ap,A,AB—0 to 21 inches; silty clay loam
Bg1,Bg2—21 to 31 inches; silty clay loam
2BCg—31 to 35 inches; sandy loam
2Cg1,2Cg2—35 to 60 inches; coarse sand

P56A—Kanaranzi silt loam, 0 to 2 percent slopes

Component Description

Kanaranzi and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Flats on outwash plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.6 inches
Content of organic matter in the upper 10 inches: 3.7 percent
Typical profile:
Ap—0 to 7 inches; silt loam
BA,Bw—7 to 20 inches; loam
2C1-2C3—20 to 80 inches; very gravelly coarse sand

Allendorf
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Flats on outwash plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained

Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 14 inches; silty clay loam
Bw1-Bw3—14 to 34 inches; silty clay loam
2BC,2C—34 to 60 inches; very gravelly loamy coarse sand

Moderately well drained soils
Extent: 1 to 15 percent of the mapped areas
Geomorphic setting: Flats on outwash plains
Slope range: 0 to 2 percent
Texture of the surface layer: Loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Loess over outwash
Flooding: None
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: 3.9 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 5.6 inches
Content of organic matter in the upper 10 inches: 3.7 percent
Typical profile:
Ap—0 to 7 inches; loam
BA,Bw—7 to 20 inches; loam
2C1-2C3—20 to 80 inches; very gravelly coarse sand

P56B—Kanaranzi silt loam, 2 to 6 percent slopes

Component Description

Kanaranzi and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Backslopes, summits, and shoulders
Slope range: 2 to 6 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 5.6 inches
Content of organic matter in the upper 10 inches: 3.7 percent
Typical profile:
Ap—0 to 7 inches; silt loam
BA,Bw—7 to 20 inches; loam
2C1-2C3—20 to 80 inches; gravelly coarse sand

Allendorf
Extent: 5 to 20 percent of the mapped areas

Geomorphic setting: Hills on outwash plains
Position on the landform: Summits, shoulders, and backslopes
Slope range: 2 to 6 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Well drained
Parent material: Loess over outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 7.5 inches
Content of organic matter in the upper 10 inches: 4.5 percent
Typical profile:
Ap,A—0 to 13 inches; silty clay loam
Bw1-Bw3—13 to 34 inches; silty clay loam
2BC,2C—34 to 60 inches; very gravelly loamy coarse sand

Talmo
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Hills on outwash plains
Position on the landform: Summits, backslopes, and shoulders
Slope range: 2 to 6 percent
Texture of the surface layer: Gravelly sandy loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Excessively drained
Parent material: Outwash
Flooding: None
Depth to wet zone: More than 6.7 feet all year
Ponding: None
Available water capacity to a depth of 60 inches: 2.4 inches
Content of organic matter in the upper 10 inches: 1.6 percent
Typical profile:
A—0 to 7 inches; gravelly sandy loam
AC—7 to 10 inches; gravelly loamy sand
C1,C2—10 to 60 inches; very gravelly sand

U3B—Udorthents (cut and fill land), 0 to 6 percent slopes

Component Description

Udorthents (cut and fill land)
Extent: 100 percent
Geomorphic setting: Moraines
Slope range: 0 to 6 percent
Parent material: Loamy material
Flooding: None
Ponding: None
General description: Udorthents occur mainly as areas of cut or fill where the landscape has been leveled or filled for development. The cut and/or fill material is dominantly loamy soil material. As much as 30 percent of this map unit is covered by impervious surfaces. The majority of the area has been disturbed by construction activity. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

U7—Udorthents, shallow (sanitary landfill)

Component Description

Udorthents, shallow, sanitary landfill
Extent: 100 percent
Geomorphic setting: Moraines
Slope range: 0 to 20 percent
General description: Udorthents occur mainly as cut and fill material in areas that have been used for development. The cut and fill material is dominantly loamy and has a few shallow pockets of sand and gravel. The majority of the area has been disturbed by construction activity. Solid waste or refuse is disposed of in areas of this map unit. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

U15A—Havelock clay loam, 0 to 2 percent slopes, frequently flooded

Component Description

Havelock, frequently flooded, and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Frequent (March, April, May, June)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
A1,A2—0 to 32 inches; clay loam
Cg—32 to 60 inches; clay loam

Havelock, occasionally flooded
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.7 inches

Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1,A2—0 to 32 inches; clay loam
Bg—32 to 60 inches; clay loam

Calco, frequently flooded
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Frequent (March, April, May, June)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 13.2 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
A1,A2—0 to 36 inches; silty clay loam
Cg—36 to 60 inches; silty clay loam

Spillco, frequently flooded
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Frequent (March, April, May, June)
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.0 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
A1—0 to 15 inches; silt loam
A2,C1,C2—15 to 60 inches; loam

U24A—Havelock clay loam, 0 to 2 percent slopes, occasionally flooded

Component Description

Havelock, occasionally flooded, and similar soils
Extent: 75 to 85 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam

Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1,A2—0 to 32 inches; clay loam
Bg—32 to 60 inches; clay loam

Havelock, frequently flooded
Extent: 5 to 15 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Frequent (March, April, May, June)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.7 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
A1,A2—0 to 32 inches; clay loam
Cg—32 to 60 inches; clay loam

Spillco, occasionally flooded
Extent: 1 to 10 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silt loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Moderately well drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 2.5 feet (April)
Deepest depth to wet zone: More than 6.7 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 12.0 inches
Content of organic matter in the upper 10 inches: 5.0 percent
Typical profile:
A1—0 to 10 inches; silt loam
A2—10 to 22 inches; silt loam
A3,A4,C—22 to 60 inches; loam

Comfrey, occasionally flooded
Extent: 1 to 5 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 11.0 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
A1,A2—0 to 26 inches; clay loam
Bg—26 to 35 inches; clay loam
BCg,Cg—35 to 60 inches; clay loam

Calco, occasionally flooded
Extent: 1 to 5 percent of the mapped areas
Geomorphic setting: Flats on flood plains
Slope range: 0 to 2 percent
Texture of the surface layer: Silty clay loam
Depth to restrictive layer(s): Very deep (more than 60 inches)
Drainage class: Poorly drained
Parent material: Alluvium
Months in which flooding does not occur: January, February, September, October, November, December
Highest frequency of flooding: Occasional (March, April, May, June, July, August)
Shallowest depth to wet zone: 0.5 foot (April)
Deepest depth to wet zone: 3.3 feet (February, August)
Ponding: None
Available water capacity to a depth of 60 inches: 13.2 inches
Content of organic matter in the upper 10 inches: 6.0 percent
Typical profile:
Ap,A1-A3—0 to 36 inches; silty clay loam
Bg—36 to 44 inches; silty clay loam
Cg—44 to 60 inches; silty clay loam

W—Water

This map unit consists of naturally occurring bodies of water or water that has been impounded by structures in natural waterways. Individual areas range in size from 1.5 acres to tens of thousands of acres.

Table 2.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
GP	Pits, gravel-Udipsamments complex	885	0.2
L5A	Delft, overwash-Delft complex, 1 to 4 percent slopes	5,834	1.3
L6A	Biscay loam, 0 to 2 percent slopes	343	*
L78A	Canisteo clay loam, 0 to 2 percent slopes	8,314	1.8
L79B	Clarion loam, 2 to 5 percent slopes	44,324	9.6
L83A	Webster clay loam, 0 to 2 percent slopes	46,909	10.2
L85A	Nicollet clay loam, 1 to 3 percent slopes	51,837	11.2
L88A	Lura silty clay, depressional, 0 to 1 percent slopes	813	0.2
L96B	Estherville-Hawick complex, 2 to 6 percent slopes	310	*
L97C	Hawick-Estherville complex, 6 to 12 percent slopes	70	*
L98A	Crippin-Nicollet complex, 1 to 3 percent slopes	246	*
L102C2	Omsrud-Storden complex, 6 to 12 percent slopes, moderately eroded	10,256	2.2
L102D2	Omsrud-Storden complex, 12 to 18 percent slopes, moderately eroded	1,374	0.3
L107A	Canisteo-Glencoe, depressional, complex, 0 to 2 percent slopes	1,938	0.4
L111A	Nicollet silty clay loam, 1 to 3 percent slopes	11,587	2.5
L112A	Webster silty clay loam, 0 to 2 percent slopes	8,081	1.7
L126A	Coland silty clay loam, 0 to 2 percent slopes, occasionally flooded	3,924	0.8
L127A	Coland silty clay loam, channeled, 0 to 2 percent slopes, frequently flooded	2,500	0.5
L129B	Terril loam, 2 to 6 percent slopes	553	0.1
L130A	Okoboji mucky silty clay loam, depressional, 0 to 1 percent slopes	602	0.1
L133A	Waldorf silty clay loam, 0 to 2 percent slopes	14,183	3.1
L134B	Clarion-Crooksford complex, 1 to 5 percent slopes	16,032	3.5
L135A	Okabena silty clay loam, 1 to 3 percent slopes	11,982	2.6
L136A	Crooksford silty clay loam, 1 to 3 percent slopes	2,821	0.6
L137A	Cylinder loam, 0 to 2 percent slopes	189	*
L138B	Estherville loam, 1 to 6 percent slopes	582	0.1
L139A	Wadena loam, 0 to 2 percent slopes	373	*
L139B	Wadena loam, 2 to 6 percent slopes	420	*
L140A	Ocheda silty clay loam, 1 to 3 percent slopes	8,987	1.9
L141A	Spillville loam, 0 to 2 percent slopes, occasionally flooded	924	0.2
L144A	Chetomba silty clay loam, 0 to 2 percent slopes	6,560	1.4
L145A	Canisteo silty clay loam, 0 to 2 percent slopes	5,079	1.1
L146A	Glencoe silty clay loam, depressional, 0 to 1 percent slopes	5,217	1.1
L150A	Prinsburg silty clay loam, 0 to 2 percent slopes	2,245	0.5
L151A	Glencoe mucky silty clay loam, ponded, 0 to 1 percent slopes	422	*
L152B	Lowlein-Round Lake complex, 1 to 6 percent slopes	2,410	0.5
L153A	Essexville sandy loam, 0 to 2 percent slopes	270	*
L154E	Belview-Ridgeton complex, 15 to 45 percent slopes	465	0.1
L155A	Okoboji mucky silty clay loam, ponded, 0 to 1 percent slopes	550	0.1
L156C2	Omsrud-Storden-Pilot Grove complex, 6 to 12 percent slopes, moderately eroded	1,055	0.2
L156D2	Omsrud-Storden-Pilot Grove complex, 12 to 18 percent slopes, moderately eroded	161	*
L157A	Lowlein loam, 0 to 2 percent slopes	1,125	0.2
L158B	Round Lake sandy loam, 1 to 6 percent slopes	1,247	0.3
L159A	Knoke mucky silty clay loam, depressional, 0 to 1 percent slopes	1,970	0.4
L160B	Dickinson sandy loam, loamy substratum, 1 to 6 percent slopes	251	*
L161C	Estherville-Pilot Grove complex, 6 to 12 percent slopes	453	*
L162B	Clarion-Round Lake complex, 2 to 6 percent slopes	676	0.1
L163A	Okoboji silty clay loam, depressional, 0 to 1 percent slopes	915	0.2
L170B	Estherville-Round Lake complex, 2 to 6 percent slopes	312	*
M-W	Water, miscellaneous	201	*
P1B	Annieville silty clay loam, 2 to 5 percent slopes	1,057	0.2
P2A	McCreath silty clay loam, 1 to 3 percent slopes	2,745	0.6
P3A	Biscay silty clay loam, 0 to 2 percent slopes, occasionally flooded	5,533	1.2
P7A	Comfrey clay loam, 0 to 2 percent slopes, occasionally flooded	4,029	0.9
P9A	Gillett Grove silty clay loam, 0 to 2 percent slopes	4,756	1.0
P12B	Everly silty clay loam, 2 to 6 percent slopes	31,865	6.9
P12C2	Everly silty clay loam, 6 to 12 percent slopes, moderately eroded	2,231	0.5
P15B	Galva silty clay loam, 2 to 5 percent slopes	214	*
P20B	Judson silt loam, 3 to 8 percent slopes	238	*
P21A	Marcus silty clay loam, 0 to 2 percent slopes	135	*

See footnote at end of table.

Table 2.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
P27A	Primghar silty clay loam, 1 to 3 percent slopes	122	*
P28A	Ransom silty clay loam, 1 to 3 percent slopes	20,151	4.4
P29A	Rushmore silty clay loam, 0 to 2 percent slopes	28,983	6.3
P30B	Sac silty clay loam, 2 to 5 percent slopes	20,716	4.5
P31A	Spicer silty clay loam, 0 to 2 percent slopes	494	0.1
P33A	Spillco silt loam, 0 to 2 percent slopes, occasionally flooded	638	0.1
P36A	Talcot silty clay loam, 0 to 2 percent slopes, occasionally flooded	449	*
P37D	Talmo gravelly sandy loam, 6 to 35 percent slopes	86	*
P38B	Thurman sandy loam, 2 to 6 percent slopes	3,650	0.8
P38C	Thurman sandy loam, 6 to 12 percent slopes	448	*
P43A	Wilmonton silty clay loam, 1 to 3 percent slopes	7,691	1.7
P45E	Moneta clay loam, 15 to 45 percent slopes	214	*
P48A	Allendorf silty clay loam, 0 to 2 percent slopes	10,557	2.3
P48B	Allendorf silty clay loam, 2 to 6 percent slopes	7,143	1.5
P49A	Comfrey clay loam, 0 to 2 percent slopes, frequently flooded	1,869	0.4
P50B	Everly-Kanaranzi complex, 2 to 6 percent slopes	242	*
P51C2	Everly-Moneta-Talmo complex, 6 to 12 percent slopes, moderately eroded	630	0.1
P52D2	Moneta-Everly-Talmo complex, 12 to 18 percent slopes, moderately eroded	144	*
P53C2	Everly-Moneta complex, 6 to 12 percent slopes, moderately eroded	329	*
P54D2	Moneta-Everly complex, 12 to 18 percent slopes, moderately eroded	223	*
P55A	Kato silty clay loam, 0 to 2 percent slopes	556	0.1
P56A	Kanaranzi silt loam, 0 to 2 percent slopes	777	0.2
P56B	Kanaranzi silt loam, 2 to 6 percent slopes	1,942	0.4
U3B	Udorthents (cut and fill land), 0 to 6 percent slopes	51	*
U7	Udorthents, shallow (sanitary landfill)	18	*
U15A	Havelock clay loam, 0 to 2 percent slopes, frequently flooded	3,534	0.8
U24A	Havelock clay loam, 0 to 2 percent slopes, occasionally flooded	4,791	1.0
W	Water	3,972	0.9
	Total	462,000	100.0

* Less than 0.1 percent.

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 sites for buildings, highways and other transportation systems, and parks and other recreational facilities; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact

on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and for hay and pasture is suggested in this section. Climate information for the survey area is provided, the estimated yields of the main crops and hay and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described. Planners of management systems for individual fields or farms should consider obtaining specific information from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Climate

Table 3 gives data on temperature and precipitation for the survey area as recorded at Worthington during the period from 1972 to 2000. Table 4 shows probable dates of the first freeze in fall and the last freeze in spring as recorded at Pipestone during the period from 1961 to 1990. Table 5 provides data on length of the growing season as recorded at Worthington during the period from 1972 to 2000.

In winter, the average temperature is about 16 degrees F and the average daily minimum temperature is 7.2 degrees. The lowest temperature during the period of record was -30 degrees. In summer, the average temperature is about 69 degrees and the average daily maximum temperature is about 80 degrees. The highest temperature during the period of record was 104 degrees.

Growing degree days are shown in table 3. 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 total annual precipitation is about 28 inches. Most of the rainfall occurs between April and September. The average total annual snowfall is about 40 inches.

Cropland Management Considerations

The management concerns affecting the use of the soil map units in the survey area for crops are shown in table 6. The main concerns in managing nonirrigated cropland are conserving moisture, controlling wind erosion and water erosion, and maintaining soil fertility.

Conserving moisture consists primarily of reducing the evaporation and runoff rates and increasing the water infiltration rate. Applying conservation tillage and conservation cropping systems, farming on the contour, stripcropping, establishing field windbreaks, and leaving crop residue on the surface conserve moisture.

Generally, a combination of several practices is needed to control *wind erosion* and *water erosion.* Conservation tillage, stripcropping, field windbreaks, contour farming, conservation cropping systems, crop residue management, terraces, diversions, and grassed waterways help to prevent excessive soil loss.

Measures that are effective in maintaining *soil 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 considerations shown in the table cannot be easily overcome. These are channels, flooding, gullies, and ponding.

Additional considerations are as follows:

Lime content, limited available water capacity, limited content of organic matter, potential poor tilth and compaction, and *restricted permeability.*—These limitations can be minimized by incorporating green manure crops, manure, or crop residue into the soil; applying a system of conservation tillage; and using conservation cropping systems. Also, crops may respond well to additions of phosphate fertilizer to soils that have a high content of lime.

Potential for ground-water contamination.—The proper use of nutrients and pesticides can reduce the risk of ground-water contamination.

Potential for surface-water contamination.—The risk of surface-water contamination can be reduced by the proper use of nutrients and pesticides and by conservation farming practices that reduce the runoff rate.

Surface crusting.—This limitation retards seedling development after periods of heavy rainfall.

Surface rock fragments.—This limitation causes rapid wear of tillage equipment. It cannot be easily overcome.

Surface stones.—Stones or boulders on or near the surface can hinder normal tillage unless they are removed.

Salt content.—In areas where this is a limitation, only salt-tolerant crops should be grown.

On irrigated soils the main management concerns are efficient water use, nutrient management, control of erosion, pest and weed control, and timely planting and harvesting for a successful crop. An irrigation system that provides optimum control and distribution of water at minimum cost is needed. Overirrigation wastes water, leaches plant nutrients, and causes erosion. Also, it can increase wetness and soil salinity.

Explanation of Criteria

Acid soil.—The pH is less than 6.1.

Channeled.—The word “channeled” is included in the map unit name.

Dense layer.—The bulk density is 1.80 g/cc or greater within the soil profile.

Depth to rock.—The depth to bedrock is less than 40 inches.

Eroded.—The word “eroded” is included in the map unit name.

Excessive permeability.—Saturated hydraulic conductivity is 42 micrometers per second or more within the soil profile.

Flooding.—Flooding is occasional, frequent, or very frequent.

Gullied.—The word “gullied” is included in the map unit name.

High content of organic matter.—The surface layer has more than 20 percent organic matter.

Lime content.—The pH is 7.4 or more in the surface layer, or the wind erodibility group is 4L.

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.

Limited content of organic matter.—The content of organic matter is 2 percent or less in the surface layer.

Ponding.—Ponding duration is assigned to the soil. Water is above the surface.

Potential poor tilth and compaction.—The content of clay is 27 percent or more in the surface layer.

Potential for ground-water contamination (by nutrients or pesticides).—The depth to a zone in which the soil moisture status is wet is 4 feet or less, the saturated hydraulic

conductivity of any layer is more than 42 micrometers per second, or the depth to bedrock is less than 60 inches.

Potential for surface-water contamination (by nutrients or pesticides).—The soil is occasionally, frequently, or very frequently flooded, is subject to ponding, is assigned to hydrologic group C or D and has a slope of more than 2 percent, is assigned to hydrologic group A and has a slope of more than 6 percent, or is assigned to hydrologic group B, has a slope of 3 percent or more, and has a K factor of more than 0.17.

Previously eroded.—The word "eroded" is included in the map unit name.

Restricted permeability.—Saturated hydraulic conductivity is less than 0.42 micrometer per second within the soil profile.

Salt content.—The electrical conductivity is 4 or more in the surface layer or 8 or more within a depth of 30 inches.

Slope (equipment limitation).—The slope is more than 15 percent.

Surface crusting.—The content of clay is 27 percent or more and the content of organic matter is 2 percent or less in the surface layer.

Surface rock fragments (equipment limitation).—The terms describing the texture of the surface layer include any rock fragment modifier, except for gravelly, channery, stony, very stony, extremely stony, bouldery, very bouldery, and extremely bouldery.

Surface stones (equipment limitation).—The word "stony" or "bouldery" is included in the description of the surface layer, or 0.01 percent or more of the surface is covered by boulders.

Water erosion.—Either the slope is 6 percent or more, or the slope is more than 3 percent and less than 6 percent and the surface layer is not sandy.

Wet soil moisture status.—A zone in which the soil moisture status is wet is within 2.5 feet of the surface.

Wind erosion.—The wind erodibility group is 1, 2, 3, or 4L.

Hydrologic groups are described under the heading "Engineering Index Properties." Erosion factors (e.g., K factor) and wind erodibility groups are described under the heading "Physical and Chemical Properties."

Crop Yield Estimates

The average yields per acre that can be expected of the principal crops and hay plants under a high level of management are shown in table 7. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of the soils in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Pasture and Hayland Interpretations

Soils are assigned to forage suitability groups according to their suitability for the production of forage vegetation. The soils in each group are similar enough to be suited to the same species of grasses or legumes, have similar limitations and hazards, require similar management, and have similar productivity levels and other responses to management. The forage suitability groups of the soils in the survey area are listed in table 8. Detailed descriptions of forage suitability groups are available at local offices of the Natural Resources Conservation Service.

Under good management, proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and renovation also are important management practices.

The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about forage yields other than those shown in table 7.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not take into account major and generally expensive 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 generally are grouped at three levels—capability class, subclass, and unit (USDA, 1961). These categories indicate the degree and kinds of limitations affecting mechanized farming systems that produce the more commonly grown field crops, such as corn, small grain, cotton, hay, and field-grown vegetables. Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use.

If properly managed, soils in classes 1, 2, 3, and 4 are suitable for the mechanized production of commonly grown field crops and for pasture and woodland. The degree of the soil limitations affecting the production of cultivated crops increases progressively from class 1 to class 4. The limitations can affect levels of production and the risk of permanent soil deterioration caused by erosion and other factors.

Soils in classes 5, 6, and 7 are generally not suited to the mechanized production of commonly grown field crops without special management, but they are suitable for plants that provide a permanent cover, such as grasses and trees. The severity of the soil limitations affecting crops increases progressively from class 5 to class 7.

Areas in class 8 are generally not suitable for crops, pasture, or woodland without a level of management that is impractical. These areas may have potential for other uses, such as recreational facilities and wildlife habitat.

Capability subclasses identify the dominant kind of limitation in the class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless a close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

There are no subclasses in class 1 because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use mainly to pasture, woodland, wildlife habitat, or recreation.

The capability classification of the soils in the survey area is given in table 7.

Prime Farmland

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. The acreage of high-quality farmland is limited, and the U.S. Department of Agriculture recognizes that government at local, State, and Federal levels, as well as individuals, must encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland soils, as defined by the U.S. Department of Agriculture, are soils that are best suited to food, feed, forage, fiber, and oilseed crops. Such soils have properties that favor the economic production of sustained high yields of crops. The soils need only to be treated and managed by acceptable farming methods. An adequate moisture supply and a sufficiently long growing season are required. Prime farmland soils produce the highest yields with minimal expenditure of energy and economic resources, and farming these soils results in the least damage to the environment.

Prime farmland soils may presently be used as cropland, pasture, or woodland or for other purposes. They either are used for food and fiber or are available for these uses. Urban or built-up land, public land, and water areas cannot be considered prime farmland. Urban or built-up land is any contiguous unit of land 10 acres or more in size that is used for such purposes as housing, industrial, and commercial sites, sites for institutions or public buildings, small parks, golf courses, cemeteries, railroad yards, airports, sanitary landfills, sewage treatment plants, and water-control structures. Public land is land not available for farming in National forests, National parks, military reservations, and State parks.

Prime farmland soils commonly receive an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable, and the level of acidity or alkalinity and the content of salts and sodium are acceptable. The soils have few, if any, rocks and are permeable to water and air. They are not excessively erodible or saturated with water for long periods, and they are not frequently flooded during the growing season or are protected from flooding. Slopes range mainly from 0 to 6 percent.

Soils in which a zone with a wet soil moisture status is high in the profile or soils that are subject to flooding may qualify as prime farmland where these limitations are overcome by drainage measures or flood control. Onsite evaluation is necessary to determine the effectiveness of corrective measures. More information about the criteria for prime farmland can be obtained at the local office of the Natural Resources Conservation Service.

A recent trend in land use has been the conversion of prime farmland to urban and industrial uses. The loss of prime farmland to other uses puts pressure on lands that are less productive than prime farmland.

The map units in the survey area that meet the requirements for prime farmland are listed in table 9. This list does not constitute a recommendation for a particular land use. On some soils included in the table, measures that overcome limitations are needed. The need for these measures is indicated in parentheses after the map unit name. The location of each map unit is shown on the soil maps. The soil qualities that affect use and management are described in the section "Soil Map Unit Descriptions."

Conservation Tree/Shrub Suitability Groups

Conservation tree/shrub suitability groups consist of soils in which the kinds and degrees of the hazards and limitations that affect the survival and growth of trees and shrubs in conservation plantings are about the same. The conservation tree/shrub suitability groups assigned to the soils in the survey area are listed in table 10. Descriptions of the groups are provided in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

Recreation

The soils of the survey area are rated in tables 11a and 11b according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses.

Not limited indicates that the soil has features that are very favorable for the 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 the tables can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet; 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 zone in which the soil moisture status is wet, 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. If food, cover, or water is missing, inadequate, or inaccessible, wildlife will be scarce or will not inhabit the area.

If the soils have potential for habitat development, wildlife habitat can be created or improved by planting appropriate vegetation, properly managing the existing plant cover, and fostering the natural establishment of desirable plants.

In table 12, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants used by wildlife. Examples are corn, soybeans, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes planted for wildlife food and cover. Examples are bromegrass, timothy, orchardgrass, clover, alfalfa, and wheatgrass.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds, that provide food and cover for wildlife. Examples are bluestems, indiangrass, blueberry, goldenrod, lambsquarters, dandelions, blackberry, ragweed, and wheatgrass.

The major soil properties affecting the growth of grain and forage crops and wild herbaceous plants are depth of the root zone, texture of the surface layer, the amount of water available to plants, wetness, salinity, and flooding. The length of the growing season also is important.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage that wildlife eat. Examples are oak, poplar, hickory, birch, maple, green ash, willow, and American elm.

Coniferous plants are cone-bearing trees, shrubs, or ground cover that provide habitat or supply food in the form of browse, seed, or fruit-like cones. Examples are pine, spruce, cedar, and tamarack.

The major soil properties affecting the growth of hardwood and coniferous trees and shrubs are depth of the root zone, the amount of water available to plants, and wetness.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Wetland plants produce food or cover for wetland wildlife. Examples of these plants are smartweeds,

wild millet, rushes, sedges, bulrushes, wild rice, arrowhead, waterplantain, cattail, prairie cordgrass, bluejoint grass, asters, and beggarticks.

The major soil properties affecting wetland plants are texture of the surface layer, wetness, acidity or alkalinity, and slope.

Shallow water areas have an average depth of less than 5 feet. They are useful as habitat for some wildlife species. They are naturally wet areas or are created by dams, levees, or water-control measures in marshes or streams. Examples are waterfowl feeding areas, wildlife watering developments, beaver ponds, and other wildlife ponds.

The major soil properties affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability.

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, and shrubs. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The wildlife attracted to these areas include Hungarian partridge, ring-necked pheasant, bobwhite quail, sharp-tailed grouse, meadowlark, field sparrow, killdeer, cottontail rabbit, and red fox.

Habitat for woodland wildlife consists of areas of hardwoods or conifers or a mixture of these and associated grasses, legumes, and wild herbaceous plants. The wildlife attracted to this habitat include wild turkey, ruffed grouse, thrushes, woodpeckers, owls, tree squirrels, porcupine, raccoon, and white-tailed deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas, bogs, or flood plains that support water-tolerant plants. The wildlife attracted to this habitat include ducks, geese, herons, bitterns, rails, kingfishers, muskrat, otter, 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, 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 zone in which the soil moisture status is wet, 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, linear extensibility, 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; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 13a and 13b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development.

Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected.

Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.

Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, ponding, flooding, slope, depth to bedrock or a

cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 a zone in which the soil moisture status is wet, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to a zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet; 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 zone in which the soil moisture status is wet, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Construction Materials

Tables 14a and 14b give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 14a, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of good or fair means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 14b, the soils are rated *good, fair,* or *poor* as potential sources of reclamation material, roadfill, and topsoil. The features that limit the soils as sources of these materials are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, or topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In table 14b, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a zone in which the soil moisture status is wet, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 15 gives 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; and aquifer-fed excavated ponds. 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 table 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 seasonal zone in which the soil moisture status is wet affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent zone in which the soil moisture status is wet. 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 zone in which the soil moisture status is wet, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Table 3.--Temperature and Precipitation

(Recorded in the period 1972-2000 at Worthington, Minnesota)

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----	21.7	3.0	12.3	49	-25	0	0.72	0.20	1.13	2	8.1
February---	28.0	9.8	18.9	56	-22	4	.57	.22	.93	2	5.3
March------	39.7	21.2	30.5	73	-8	38	1.91	.82	2.94	4	7.4
April------	55.1	33.0	44.1	85	12	190	2.77	1.50	4.04	5	3.5
May--------	69.1	45.5	57.3	92	28	538	3.44	2.04	4.78	7	.0
June-------	78.6	55.5	67.0	97	39	811	4.54	2.36	6.30	6	.0
July-------	82.6	60.0	71.3	99	45	969	3.60	1.32	5.75	6	.0
August-----	79.8	56.8	68.3	95	42	877	3.52	1.57	5.23	5	.0
September--	71.8	47.1	59.5	92	29	585	2.57	1.11	4.04	4	.0
October----	59.2	35.1	47.2	85	16	262	1.91	.52	3.12	3	.9
November---	39.5	21.6	30.6	68	-4	39	1.62	.45	2.76	3	6.8
December---	25.9	8.7	17.3	52	-19	2	.71	.23	1.18	2	7.6
Yearly:											
Average---	54.3	33.1	43.7	---	---	---	---	---	---	---	---
Extreme---	104	-30	---	100	-26	---	---	---	---	---	---
Total-----	---	---	---	---	---	4,315	27.87	21.66	33.07	49	39.8

* 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 4.--Freeze Dates in Spring and Fall

(Recorded in the period 1961-90 at Pipestone, Minnesota)

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--	May 10	May 21	June 9
2 years in 10 later than--	May 4	May 16	June 1
5 years in 10 later than--	Apr. 23	May 5	May 17
First freezing temperature in fall:			
1 year in 10 earlier than--	Sept. 21	Sept. 12	Sept. 5
2 years in 10 earlier than--	Sept. 26	Sept. 18	Sept. 10
5 years in 10 earlier than--	Oct. 8	Sept. 29	Sept. 21

Table 5.--Growing Season

(Recorded in the period 1972-2000 at Worthington, Minnesota)

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	173	146	130
8 years in 10	180	153	136
5 years in 10	194	167	149
2 years in 10	208	181	161
1 year in 10	216	188	167

Table 6.--Cropland Management Considerations

(See text for a description of the considerations listed in this table)

Map symbol and component name	Pct. of map unit	Cropland management considerations
GP:		
Pits, gravel	80	Not applicable
Udipsamments	20	Not applicable
L5A:		
Delft, overwash	45	Potential for ground-water contamination Water erosion Wet soil moisture status
Delft	35	Potential for ground-water contamination Wet soil moisture status
Delft, frequently flooded	7	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Terril	6	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Glencoe, depressional	4	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Poorly drained soils	3	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
L6A:		
Biscay	85	Excessive permeability Potential for ground-water contamination Wet soil moisture status
Biscay, depressional	8	Excessive permeability Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Mayer	5	Excessive permeability Lime content Potential for ground-water contamination Wet soil moisture status Wind erosion
Cylinder	2	Excessive permeability Potential for ground-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L78A:		
Canisteo	65	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Crippin	10	Lime content Potential for ground-water contamination Wet soil moisture status Wind erosion
Glencoe, depressional	10	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Canisteo, depressional	5	Lime content Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Harps	5	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Webster	5	Potential for ground-water contamination Wet soil moisture status
L79B:		
Clarion	70	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Clarion, moderately eroded	15	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Nicollet	8	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Ocheyedan	5	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Webster	2	Potential for ground-water contamination Wet soil moisture status
L83A:		
Webster	65	Potential for ground-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L83A:		
Glencoe, depressional	14	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Canisteo	8	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Nicollet	8	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Poorly drained soils	5	Excessive permeability Potential for ground-water contamination Wet soil moisture status
L85A:		
Nicollet	85	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Clarion	10	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Webster	5	Potential for ground-water contamination Wet soil moisture status
L88A:		
Lura, depressional	85	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Restricted permeability Wet soil moisture status
Brownton	7	Lime content Potential poor tilth and compaction Potential for ground-water contamination Restricted permeability Wet soil moisture status
Depressional soils that have an organic surface layer	5	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Restricted permeability Wet soil moisture status Wind erosion
Prinsburg	3	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L96B:		
Estherville	55	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Hawick	35	Excessive permeability Limited available water capacity Potential for ground-water contamination Water erosion
Biscay	2	Excessive permeability Potential for ground-water contamination Wet soil moisture status
Tomall	8	Excessive permeability Potential for ground-water contamination
L97C:		
Hawick	60	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion
Estherville	30	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Tomall	10	Excessive permeability Potential for ground-water contamination
L98A:		
Crippin	50	Lime content Potential for ground-water contamination Wet soil moisture status Wind erosion
Nicollet	40	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Canisteo	5	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Clarion	5	Potential for ground-water contamination Potential for surface-water contamination Water erosion
L102C2:		
Omsrud, moderately eroded	45	Potential for surface-water contamination Previously eroded Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L102C2:		
Storden, moderately eroded---	24	Lime content Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Omsrud----------	14	Potential for surface-water contamination Previously eroded Water erosion
Terril----------	10	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Delft----------	5	Potential for ground-water contamination Previously eroded Wet soil moisture status
Crooksford----------	2	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wet soil moisture status
L102D2:		
Omsrud, moderately eroded----	45	Slope Potential for surface-water contamination Previously eroded Water erosion
Storden, moderately eroded---	20	Slope Lime content Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Omsrud----------	14	Slope Potential for surface-water contamination Previously eroded Water erosion
Ridgeton----------	9	Potential for surface-water contamination Previously eroded Water erosion
Delft----------	6	Potential for ground-water contamination Previously eroded Wet soil moisture status
Terril----------	6	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L107A:		
Canisteo	50	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Glencoe, depressional	35	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Harps	10	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Canisteo, depressional	3	Lime content Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Crippin	2	Lime content Potential for ground-water contamination Wet soil moisture status Wind erosion
L111A:		
Nicollet	80	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Okabena	14	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Clarion	4	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Webster	2	Potential for ground-water contamination Wet soil moisture status
L112A:		
Webster	80	Potential for ground-water contamination Wet soil moisture status
Chetomba	10	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Glencoe, depressional	6	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L112A:		
Canisteo	2	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Nicollet	2	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
L126A:		
Coland, occasionally flooded	80	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Minneopa, occasionally flooded	10	Flooding Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Havelock, occasionally flooded	5	Flooding Lime content Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Spillville, occasionally flooded	5	Flooding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L127A:		
Coland, frequently flooded	80	Flooding Channeled Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Minneopa, occasionally flooded	10	Flooding Channeled Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L127A:		
Havelock, frequently flooded	5	Flooding Channeled Lime content Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Spillville, occasionally flooded	5	Flooding Channeled Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L129B:		
Terril	90	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Clarion	5	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Delft	5	Potential for ground-water contamination Wet soil moisture status
L130A:		
Okoboji mucky silty clay loam, depressional	75	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Okoboji silty clay loam, depressional	15	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Brownton	5	Lime content Potential poor tilth and compaction Potential for ground-water contamination Restricted permeability Wet soil moisture status
Spicer	5	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
L133A:		
Waldorf	80	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L133A:		
Marna	9	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Chetomba	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Brownton	2	Lime content Potential poor tilth and compaction Potential for ground-water contamination Restricted permeability Wet soil moisture status
Lura, depressional	2	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Restricted permeability Wet soil moisture status
Barbert	1	Ponding Potential for ground-water contamination Potential for surface-water contamination Restricted permeability Wet soil moisture status
Ocheda	1	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Restricted permeability Wet soil moisture status
L134B:		
Clarion	56	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Crooksford	15	Potential for ground-water contamination Potential for surface-water contamination Water erosion Wet soil moisture status
Clarion, moderately eroded	14	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Nicollet	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Swanlake	5	Lime content Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Terril	5	Potential for ground-water contamination Potential for surface-water contamination Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L135A:		
Okabena	85	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Kingston	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Nicollet	4	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Chetomba	2	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Ocheda	2	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Restricted permeability Wet soil moisture status
Waldorf	2	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
L136A:		
Crooksford	80	Potential for ground-water contamination Wet soil moisture status
Nicollet	8	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Clarion	7	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Okabena	3	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Webster	2	Potential for ground-water contamination Wet soil moisture status
L137A:		
Cylinder	90	Excessive permeability Potential for ground-water contamination Wet soil moisture status
Biscay	4	Excessive permeability Potential for ground-water contamination Wet soil moisture status
Wadena	4	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion
Linder	2	Excessive permeability Potential for ground-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L138B:		
Estherville	85	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Wadena	7	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion
Hawick	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Water erosion
Cylinder	3	Excessive permeability Potential for ground-water contamination Wet soil moisture status
L139A:		
Wadena	85	Excessive permeability Potential for ground-water contamination
Estherville	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Wind erosion
Kanaranzi	5	Excessive permeability Limited available water capacity Potential for ground-water contamination
Cylinder	3	Excessive permeability Potential for ground-water contamination Wet soil moisture status
Dickinson	2	Excessive permeability Limited content of organic matter Potential for ground-water contamination Wind erosion
L139B:		
Wadena	85	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion
Estherville	7	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Cylinder	3	Excessive permeability Potential for ground-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L139B:		
Dickinson	3	Excessive permeability Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Biscay	2	Excessive permeability Potential for ground-water contamination Wet soil moisture status
L140A:		
Ocheda	85	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Restricted permeability Wet soil moisture status
Guckeen	5	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Collinwood	3	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Restricted permeability Wet soil moisture status
Nicollet	3	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Clarion	2	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Marna	2	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
L141A:		
Spillville, occasionally flooded	86	Flooding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Coland, occasionally flooded	8	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Hanlon, occasionally flooded	4	Potential for ground-water contamination Wet soil moisture status Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L141A:		
Havelock, occasionally flooded	2	Flooding Lime content Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
L144A:		
Chetomba	75	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Waldorf	13	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Webster	5	Potential for ground-water contamination Wet soil moisture status
Okoboji, depressional	3	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Prinsburg	3	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Okabena	1	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
L145A:		
Canisteo	80	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Glencoe, depressional	10	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Webster	5	Potential for ground-water contamination Wet soil moisture status
Prinsburg	4	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L145A:		
Crippin	1	Lime content Potential for ground-water contamination Wet soil moisture status Wind erosion
L146A:		
Glencoe, depressional	80	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Canisteo	10	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Harps	10	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
L150A:		
Prinsburg	75	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Chetomba	14	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Webster	4	Potential for ground-water contamination Wet soil moisture status
Canisteo	3	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Okabena	2	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Okoboji, depressional	2	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L151A:		
Glencoe, ponded	80	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L151A:		
Okoboji, ponded	14	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Klossner, ponded	6	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L152B:		
Lowlein	60	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion Wet soil moisture status Wind erosion
Round Lake	20	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Nicollet	12	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Farrar	6	Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Webster	2	Potential for ground-water contamination Wet soil moisture status
L153A:		
Essexville	85	Excessive permeability Lime content Potential for ground-water contamination Wet soil moisture status Wind erosion
Canisteo	5	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Glencoe, depressional	4	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L153A:		
Belleville	3	Excessive permeability Potential for ground-water contamination Wet soil moisture status Wind erosion
Very poorly drained soils in depressions	2	Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Somewhat poorly drained soils	1	Excessive permeability Potential for ground-water contamination Wet soil moisture status Wind erosion
L154E:		
Belview	60	Slope Lime content Potential for surface-water contamination Water erosion Wind erosion
Ridgeton	22	Slope Potential for surface-water contamination Water erosion
Omsrud	14	Slope Potential for surface-water contamination Water erosion
Delft	2	Potential for ground-water contamination Wet soil moisture status
Terril	2	Potential for ground-water contamination Potential for surface-water contamination Water erosion
L155A:		
Okoboji, ponded	85	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Glencoe, ponded	10	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Blue Earth, ponded	3	High content of organic matter Lime content Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L155A:		
Klossner, ponded	2	High content of organic matter Ponding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
L156C2:		
Omsrud, moderately eroded	44	Potential for surface-water contamination Previously eroded Water erosion
Storden, moderately eroded	24	Lime content Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Pilot Grove	20	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Hawick	8	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Delft	2	Potential for ground-water contamination Previously eroded Wet soil moisture status
Terril	2	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
L156D2:		
Omsrud, moderately eroded	50	Slope Potential for surface-water contamination Previously eroded Water erosion
Storden, moderately eroded	25	Slope Lime content Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L156D2:		
Pilot Grove	15	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Hawick	4	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Ridgeton	2	Potential for surface-water contamination Previously eroded Water erosion
Delft	2	Potential for ground-water contamination Previously eroded Wet soil moisture status
Terril	2	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
L157A:		
Lowlein	78	Excessive permeability Potential for ground-water contamination Wet soil moisture status Wind erosion
Nicollet	14	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Round Lake	4	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Webster	2	Potential for ground-water contamination Wet soil moisture status
Farrar	2	Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
L158B:		
Round Lake	80	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L158B:		
Lowlein	13	Excessive permeability Potential for ground-water contamination Wet soil moisture status Wind erosion
Ocheyedan	3	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Estherville	2	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Webster	2	Potential for ground-water contamination Wet soil moisture status
L159A:		
Knoke, depressional	85	Lime content Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Okoboji, depressional	5	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Essexville	4	Excessive permeability Lime content Potential for ground-water contamination Wet soil moisture status Wind erosion
Canisteo	3	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Canisteo, depressional	3	Lime content Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
L160B:		
Dickinson, loamy substratum	85	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L160B:		
Farrar	8	Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Lowlein	7	Excessive permeability Potential for ground-water contamination Wet soil moisture status Wind erosion
L161C:		
Estherville	38	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Pilot Grove	38	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Well drained soils	15	Potential for surface-water contamination Water erosion
Hawick	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion
Delft	2	Potential for ground-water contamination Wet soil moisture status
Terril	2	Potential for ground-water contamination Potential for surface-water contamination Water erosion
L162B:		
Clarion	45	Potential for ground-water contamination Potential for surface-water contamination Water erosion
Round Lake	30	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Estherville	8	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L162B:		
Lowlein	5	Excessive permeability Potential for ground-water contamination Wet soil moisture status Wind erosion
Nicollet	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Swanlake	5	Lime content Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Webster	2	Potential for ground-water contamination Wet soil moisture status
L163A:		
Okoboji, depressional	92	Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Canisteo	2	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Harpster	2	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Knoke, depressional	2	Lime content Ponding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Prinsburg	2	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
L170B:		
Estherville	50	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
L170B:		
Round Lake	45	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Lowlein	3	Excessive permeability Potential for ground-water contamination Wet soil moisture status Wind erosion
Poorly drained soils	2	Excessive permeability Potential for ground-water contamination Wet soil moisture status
M-W:		
Water, miscellaneous	100	Not applicable
P1B:		
Annieville	80	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion
McCreath	10	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Galva	5	Potential poor tilth and compaction Potential for surface-water contamination Water erosion
Primghar	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
P2A:		
McCreath	80	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Gillett Grove	10	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Annieville	5	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion
Primghar	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
P3A:		
Biscay, occasionally flooded	85	Flooding Excessive permeability Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Cylinder, occasionally flooded	10	Flooding Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Talcot, occasionally flooded	5	Flooding Excessive permeability Lime content Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
P7A:		
Comfrey, occasionally flooded	80	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Colo, occasionally flooded	5	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Havelock, occasionally flooded	5	Flooding Lime content Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Havelock, frequently flooded	5	Flooding Lime content Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Spillco, occasionally flooded	5	Flooding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
P9A:		
Gillett Grove	85	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
McCreath	10	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Afton, frequently flooded	5	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
P12B:		
Everly	80	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion
Sac	10	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion Wet soil moisture status
Ransom	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Wilmonton	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
P12C2:		
Everly, moderately eroded	80	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Everly	10	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Moneta	5	Lime content Potential poor tilth and compaction Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Wilmonton	5	Potential poor tilth and compaction Potential for ground-water contamination Previously eroded Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
P15B:		
Galva	80	Potential poor tilth and compaction Potential for surface-water contamination Water erosion
Primghar	10	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Annieville	5	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion
Sac	5	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion Wet soil moisture status
P20B:		
Judson	80	Potential for surface-water contamination Water erosion
Primghar	10	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Galva	5	Potential poor tilth and compaction Potential for surface-water contamination Water erosion
Whitewood, overwash	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
P21A:		
Marcus	80	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Whitewood, frequently flooded	10	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Primghar	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Spicer	5	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
P27A:		
Primghar	80	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
P27A:		
Galva	8	Potential poor tilth and compaction Potential for surface-water contamination Water erosion
Marcus	8	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Judson	4	Potential poor tilth and compaction Potential for ground-water contamination
P28A:		
Ransom	80	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Rushmore	8	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Sac	8	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion Wet soil moisture status
Primghar	4	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
P29A:		
Rushmore	80	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Ransom	10	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Whitewood, frequently flooded	10	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
P30B:		
Sac	80	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion Wet soil moisture status
Annieville	10	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion
Primghar	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
P30B:		
Ransom	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
P31A:		
Spicer	85	Lime content Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status Wind erosion
Marcus	10	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Whitewood	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
P33A:		
Spillco, occasionally flooded	85	Flooding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Spillco, frequently flooded	10	Flooding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Comfrey, occasionally flooded	5	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
P36A:		
Talcot, occasionally flooded	85	Flooding Excessive permeability Lime content Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Biscay, occasionally flooded	10	Flooding Excessive permeability Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Cylinder, occasionally flooded	5	Flooding Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
P37D:		
Talmo	90	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion
Kanaranzi	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion
Thurman	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
P38B:		
Thurman	90	Excessive permeability Limited available water capacity Potential for ground-water contamination Water erosion Wind erosion
Henkin	10	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion
P38C:		
Thurman	90	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Henkin	10	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion
P43A:		
Wilmonton	85	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Everly	5	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion
Ransom	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Rushmore	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
P45E:		
Moneta	85	Slope Lime content Potential poor tilth and compaction Potential for surface-water contamination Water erosion Wind erosion
Judson	10	Potential for surface-water contamination Water erosion
Soils that are moderately deep to carbonates	5	Slope Potential poor tilth and compaction Potential for surface-water contamination Water erosion
P48A:		
Allendorf	85	Excessive permeability Potential poor tilth and compaction Potential for ground-water contamination
Kanaranzi	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion
Moderately well drained soils	5	Excessive permeability Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Sac	5	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion Wet soil moisture status
P48B:		
Allendorf	85	Excessive permeability Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion
Kanaranzi	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion
Moderately well drained soils	5	Excessive permeability Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Sac	5	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
P49A:		
Comfrey, frequently flooded--	85	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Comfrey, occasionally flooded	5	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Havelock, frequently flooded	5	Flooding Lime content Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Spillco, occasionally flooded	5	Flooding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
P50B:		
Everly----------	60	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion
Kanaranzi----------	25	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion
Wilmonton----------	10	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Ransom----------	5	Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
P51C2:		
Everly, moderately eroded----	40	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Moneta, moderately eroded----	20	Lime content Potential poor tilth and compaction Potential for surface-water contamination Previously eroded Water erosion Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
P51C2:		
Talmo, moderately eroded	20	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Everly	10	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Kanaranzi	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Wilmonton	5	Potential poor tilth and compaction Potential for ground-water contamination Previously eroded Wet soil moisture status
P52D2:		
Moneta, moderately eroded	40	Slope Lime content Potential poor tilth and compaction Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Everly, moderately eroded	20	Slope Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Talmo, moderately eroded	20	Slope Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Everly	10	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wet soil moisture status
Kanaranzi	5	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
P52D2:		
Wilmonton	5	Potential poor tilth and compaction Potential for ground-water contamination Previously eroded Wet soil moisture status
P53C2:		
Everly, moderately eroded	55	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Moneta, moderately eroded	25	Lime content Potential poor tilth and compaction Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Everly	10	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
Wilmonton	10	Potential poor tilth and compaction Potential for ground-water contamination Previously eroded Wet soil moisture status
P54D2:		
Moneta, moderately eroded	45	Slope Lime content Potential poor tilth and compaction Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Everly, moderately eroded	40	Slope Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wet soil moisture status
Everly	10	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wet soil moisture status
Wilmonton	5	Potential poor tilth and compaction Potential for ground-water contamination Previously eroded Wet soil moisture status

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
P55A:		
Kato	90	Excessive permeability Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
Somewhat poorly drained soils	10	Excessive permeability Potential poor tilth and compaction Potential for ground-water contamination Wet soil moisture status
P56A:		
Kanaranzi	80	Excessive permeability Limited available water capacity Potential for ground-water contamination
Allendorf	10	Excessive permeability Potential poor tilth and compaction Potential for ground-water contamination
Moderately well drained soils	10	Excessive permeability Limited available water capacity Potential for ground-water contamination Wet soil moisture status
P56B:		
Kanaranzi	80	Excessive permeability Limited available water capacity Potential for ground-water contamination Potential for surface-water contamination Water erosion
Allendorf	14	Excessive permeability Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion
Talmo	6	Excessive permeability Limited available water capacity Potential for ground-water contamination
U3B:		
Udorthents (cut and fill land)	100	Not applicable
U7:		
Udorthents, shallow, sanitary landfill	100	Not applicable
U15A:		
Havelock, frequently flooded	80	Flooding Lime content Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion

Table 6.--Cropland Management Considerations--Continued

Map symbol and component name	Pct. of map unit	Cropland management considerations
U15A:		
Havelock, occasionally flooded	10	Flooding Lime content Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Calco, frequently flooded	5	Flooding Lime content Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Spillco, frequently flooded	5	Flooding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
U24A:		
Havelock, occasionally flooded	80	Flooding Lime content Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Havelock, frequently flooded	10	Flooding Lime content Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
Spillco, occasionally flooded	5	Flooding Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Comfrey, occasionally flooded	3	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status
Calco, occasionally flooded	2	Flooding Lime content Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Wet soil moisture status Wind erosion
W:		
Water	100	Not applicable

Table 7.--Land Capability and Yields per Acre of Crops

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and component name	Pct. of map unit	Land capability	Bromegrass-alfalfa hay	Corn	Oats	Soybeans	Spring wheat
			Tons	Bu	Bu	Bu	Bu
GP			---	---	---	---	---
Pits, gravel	80	---					
Udipsamments	20	---					
L5A			4.3	149	89	47	58
Delft, overwash	45	2w					
Delft	35	2w					
Delft, frequently flooded	7	2w					
Terril	6	2e					
Glencoe, depressional	4	3w					
Poorly drained soils	3	2w					
L6A			3.5	123	70	37	49
Biscay	85	2w					
Biscay, depressional	8	3w					
Mayer	5	2w					
Cylinder	2	2s					
L78A			4.1	149	87	44	57
Canisteo	65	2w					
Crippin	10	1					
Glencoe, depressional	10	3w					
Canisteo, depressional	5	3w					
Harps	5	2w					
Webster	5	2w					
L79B			4.9	155	87	49	61
Clarion	70	2e					
Clarion, moderately eroded	15	2e					
Nicollet	8	1					
Ocheyedan	5	2e					
Webster	2	2w					
L83A			4.3	149	89	46	58
Webster	65	2w					
Glencoe, depressional	14	3w					
Canisteo	8	2w					
Nicollet	8	1					
Poorly drained soils	5	2w					
L85A			5.0	166	94	51	---
Nicollet	85	1					
Clarion	10	2e					
Webster	5	2w					
L88A			3.5	131	79	39	48
Lura, depressional	85	3w					
Brownton	7	2w					
Depressional soils that have an organic surface layer	5	3w					
Prinsburg	3	2w					

Table 7.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability	Bromegrass-alfalfa hay	Corn	Oats	Soybeans	Spring wheat
			Tons	Bu	Bu	Bu	Bu
L96B			2.4	68	55	25	32
Estherville	55	3s					
Hawick	35	4s					
Biscay	2	2w					
Tomall	8	2s					
L97C			1.7	61	50	18	31
Hawick	60	4s					
Estherville	30	4s					
Tomall	10	2s					
L98A			5.2	159	90	50	64
Crippin	50	1					
Nicollet	40	1					
Canisteo	5	2w					
Clarion	5	2e					
L102C2			4.5	140	78	43	56
Omsrud, moderately eroded	45	3e					
Storden, moderately eroded	24	3e					
Omsrud	14	3e					
Terril	10	2e					
Delft	5	2w					
Crooksford	2	2e					
L102D2			4.0	124	71	37	46
Omsrud, moderately eroded	45	4e					
Storden, moderately eroded	20	4e					
Omsrud	14	4e					
Ridgeton	9	3e					
Delft	6	2w					
Terril	6	2e					
L107A			3.9	145	85	42	56
Canisteo	50	2w					
Glencoe, depressional	35	3w					
Harps	10	2w					
Canisteo, depressional	3	3w					
Crippin	2	1					
L111A			5.2	160	90	50	64
Nicollet	80	1					
Okabena	14	1					
Clarion	4	2e					
Webster	2	2w					
L112A			4.3	149	89	47	58
Webster	80	2w					
Chetomba	10	2w					
Glencoe, depressional	6	3w					
Canisteo	2	2w					
Nicollet	2	1					

Table 7.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability	Bromegrass-alfalfa hay	Corn	Oats	Soybeans	Spring wheat
			Tons	Bu	Bu	Bu	Bu
L126A			3.8	129	73	43	54
Coland, occasionally flooded	80	2w					
Minneopa, occasionally flooded	10	3s					
Havelock, occasionally flooded	5	2w					
Spillville, occasionally flooded	5	2w					
L127A			---	---	---	---	---
Coland, frequently flooded	80	5w					
Minneopa, occasionally flooded	10	3s					
Havelock, frequently flooded	5	5w					
Spillville, occasionally flooded	5	2w					
L129B			5.1	157	95	50	63
Terril	90	2e					
Clarion	5	2e					
Delft	5	2w					
L130A			3.4	130	80	38	55
Okoboji mucky silty clay loam, depressional	75	3w					
Okoboji, silty clay loam, depressional	15	3w					
Brownton	5	2w					
Spicer	5	2w					
L133A			4.4	149	87	48	55
Waldorf	80	2w					
Marna	9	2w					
Chetomba	5	2w					
Brownton	2	2w					
Lura, depressional	2	3w					
Barbert	1	3w					
Ocheda	1	2w					
L134B			5.0	156	88	49	62
Clarion	56	2e					
Crooksford	15	2e					
Clarion, moderately eroded	14	2e					
Nicollet	5	1					
Swanlake	5	2e					
Terril	5	2e					
L135A			5.2	160	90	50	64
Okabena	85	1					
Kingston	5	1					
Nicollet	4	1					
Chetomba	2	2w					
Ocheda	2	2w					
Waldorf	2	2w					

Table 7.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability	Bromegrass-alfalfa hay	Corn	Oats	Soybeans	Spring wheat
			Tons	Bu	Bu	Bu	Bu
L136A			5.2	159	90	50	64
Crooksford	80	1					
Nicollet	8	1					
Clarion	7	2e					
Okabena	3	1					
Webster	2	2w					
L137A			3.5	110	66	35	50
Cylinder	90	2s					
Biscay	4	2w					
Wadena	4	2e					
Linder	2	2s					
L138B			2.8	71	55	29	34
Estherville	85	3s					
Wadena	7	2e					
Hawick	5	4s					
Cylinder	3	2s					
L139A			3.4	105	87	33	54
Wadena	85	2s					
Estherville	5	3s					
Kanaranzi	5	3s					
Cylinder	3	2s					
Dickinson	2	3s					
L139B			3.4	105	87	33	54
Wadena	85	2e					
Estherville	7	3s					
Cylinder	3	2s					
Dickinson	3	3e					
Biscay	2	2w					
L140A			5.2	160	90	50	64
Ocheda	85	2w					
Guckeen	5	2w					
Collinwood	3	2w					
Nicollet	3	1					
Clarion	2	2e					
Marna	2	2w					
L141A			4.3	149	85	46	55
Spillville, occasionally flooded	86	2w					
Coland, occasionally flooded	8	2w					
Hanlon, occasionally flooded	4	2s					
Havelock, occasionally flooded	2	2w					
L144A			4.3	149	89	47	58
Chetomba	75	2w					
Waldorf	13	2w					
Webster	5	2w					
Okoboji, depressional	3	3w					
Prinsburg	3	2w					
Okabena	1	1					

Table 7.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability	Bromegrass-alfalfa hay	Corn	Oats	Soybeans	Spring wheat
			Tons	Bu	Bu	Bu	Bu
L145A			4.1	149	87	45	56
Canisteo	80	2w					
Glencoe, depressional	10	3w					
Webster	5	2w					
Prinsburg	4	2w					
Crippin	1	1					
L146A			3.7	139	82	40	55
Glencoe, depressional	80	3w					
Canisteo	10	2w					
Harps	10	2w					
L150A			4.2	150	88	45	57
Prinsburg	75	2w					
Chetomba	14	2w					
Webster	4	2w					
Canisteo	3	2w					
Okabena	2	1					
Okoboji, depressional	2	3w					
L151A			---	---	---	---	---
Glencoe, ponded	80	8w					
Okoboji, ponded	14	8w					
Klossner, ponded	6	8w					
L152B			3.9	131	81	42	49
Lowlein	60	2e					
Round Lake	20	3s					
Nicollet	12	1					
Farrar	6	2e					
Webster	2	2w					
L153A			3.7	109	81	35	46
Essexville	85	3w					
Canisteo	5	2w					
Glencoe, depressional	4	3w					
Belleville	3	2w					
Very poorly drained soils in depressions	2	3w					
Somewhat poorly drained soils	1	3s					
L154E			3.8	---	---	---	---
Belview	60	6e					
Ridgeton	22	6e					
Omsrud	14	6e					
Delft	2	2w					
Terril	2	2e					
L155A			---	---	---	---	---
Okoboji, ponded	85	8w					
Glencoe, ponded	10	8w					
Blue Earth, ponded	3	8w					
Klossner, ponded	2	8w					
L156C2			3.7	115	68	36	47
Omsrud, moderately eroded	44	3e					
Storden, moderately eroded	24	3e					
Pilot Grove	20	4s					
Hawick	8	4s					
Delft	2	2w					
Terril	2	2e					

Table 7.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability	Bromegrass-alfalfa hay	Corn	Oats	Soybeans	Spring wheat
			Tons	Bu	Bu	Bu	Bu
L156D2			3.3	104	63	32	41
Omsrud, moderately eroded	50	4e					
Storden, moderately eroded	25	6s					
Pilot Grove	15	3s					
Hawick	4	6s					
Ridgeton	2	3e					
Delft	2	2w					
Terril	2	2e					
L157A			4.1	143	87	45	52
Lowlein	78	1					
Nicollet	14	1					
Round Lake	4	3s					
Webster	2	2w					
Farrar	2	2e					
L158B			3.2	84	61	32	38
Round Lake	80	3s					
Lowlein	13	1					
Ocheyedan	3	2e					
Estherville	2	3s					
Webster	2	2w					
L159A			3.5	140	80	41	49
Knoke, depressional	85	3w					
Okoboji, depressional	5	3w					
Essexville	4	3w					
Canisteo	3	2w					
Canisteo, depressional	3	3w					
L160B			3.0	106	77	32	46
Dickinson, loamy substratum	85	3e					
Farrar	8	2e					
Lowlein	7	1					
L161C			2.2	71	56	23	34
Estherville	38	4s					
Pilot Grove	38	4s					
Well drained soils	15	3e					
Hawick	5	4s					
Delft	2	2w					
Terril	2	2e					
L162B			4.2	122	75	41	51
Clarion	45	2e					
Round Lake	30	3s					
Estherville	8	3s					
Lowlein	5	1					
Nicollet	5	1					
Swanlake	5	2e					
Webster	2	2w					
L163A			3.3	130	80	37	55
Okoboji, depressional	92	3w					
Canisteo	2	2w					
Harpster	2	2w					
Knoke, depressional	2	3w					
Prinsburg	2	2w					

Table 7.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability	Bromegrass-alfalfa hay	Corn	Oats	Soybeans	Spring wheat
			Tons	Bu	Bu	Bu	Bu
L170B			2.9	72	56	30	35
Estherville	50	3s					
Round Lake	45	3s					
Lowlein	3	1					
Poorly drained soils	2	2w					
M-W.							
Water, miscellaneous							
P1B			5.1	156	87	49	62
Annieville	80	2e					
McCreath	10	1					
Galva	5	2e					
Primghar	5	1					
P2A			5.3	159	90	50	64
McCreath	80	1					
Gillett Grove	10	2w					
Annieville	5	2e					
Primghar	5	1					
P3A			3.5	119	70	38	50
Biscay, occasionally flooded	85	2w					
Cylinder, occasionally flooded	10	2s					
Talcot, occasionally flooded	5	2w					
P7A			3.8	127	71	40	51
Comfrey, occasionally flooded	80	2w					
Colo, occasionally flooded	5	2w					
Havelock, occasionally flooded	5	2w					
Havelock, frequently flooded	5	5w					
Spillco, occasionally flooded	5	1					
P9A			5.1	155	87	49	62
Gillett Grove	85	2w					
McCreath	10	1					
Afton, frequently flooded	5	2w					
P12B			5.1	156	87	49	62
Everly	80	2e					
Sac	10	2e					
Ransom	5	1					
Wilmonton	5	1					
P12C2			4.5	136	77	43	54
Everly, moderately eroded	80	3e					
Everly	10	2e					
Moneta	5	4e					
Wilmonton	5	1					

Table 7.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability	Bromegrass-alfalfa hay	Corn	Oats	Soybeans	Spring wheat
			Tons	Bu	Bu	Bu	Bu
P15B			5.1	156	87	49	62
Galva	80	2e					
Primghar	10	1					
Annieville	5	2e					
Sac	5	2e					
P20B			5.1	155	87	49	62
Judson	80	2e					
Primghar	10	1					
Galva	5	2e					
Whitewood, overwash	5	2w					
P21A			4.3	145	81	46	58
Marcus	80	2w					
Whitewood, frequently flooded	10	2w					
Primghar	5	1					
Spicer	5	2w					
P27A			5.2	158	89	50	63
Primghar	80	1					
Galva	8	2e					
Marcus	8	2w					
Judson	4	1					
P28A			5.2	158	89	50	63
Ransom	80	1					
Rushmore	8	2w					
Sac	8	2e					
Primghar	4	1					
P29A			4.4	146	82	46	58
Rushmore	80	2w					
Ransom	10	1					
Whitewood, frequently flooded	10	2w					
P30B			5.1	156	87	49	62
Sac	80	2e					
Annieville	10	2e					
Primghar	5	1					
Ransom	5	1					
P31A			4.2	141	78	44	56
Spicer	85	2w					
Marcus	10	2w					
Whitewood	5	2w					
P33A			5.0	153	86	49	61
Spillco, occasionally flooded	85	1					
Spillco, frequently flooded	10	5w					
Comfrey, occasionally flooded	5	2w					
P36A			3.5	115	69	37	49
Talcot, occasionally flooded	85	2w					
Biscay, occasionally flooded	10	2w					
Cylinder, occasionally flooded	5	2s					

Table 7.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability	Bromegrass-alfalfa hay	Corn	Oats	Soybeans	Spring wheat
			Tons	Bu	Bu	Bu	Bu
P37D			---	---	---	---	---
Talmo	90	7s					
Kanaranzi	5	4e					
Thurman	5	4e					
P38B			3.0	91	54	29	41
Thurman	90	3e					
Henkin	10	2e					
P38C			2.5	76	45	25	34
Thurman	90	4e					
Henkin	10	3e					
P43A			5.2	159	89	50	64
Wilmonton	85	1					
Everly	5	2e					
Ransom	5	1					
Rushmore	5	2w					
P45E			---	---	---	---	---
Moneta	85	7e					
Judson	10	2e					
Soils that are moderately deep to carbonates	5	7e					
P48A			3.8	116	70	38	52
Allendorf	85	2s					
Kanaranzi	5	2e					
Moderately well drained soils	5	1					
Sac	5	2e					
P48B			3.6	112	67	36	50
Allendorf	85	2e					
Kanaranzi	5	2e					
Moderately well drained soils	5	1					
Sac	5	2e					
P49A			---	---	---	---	---
Comfrey, frequently flooded	85	5w					
Comfrey, occasionally flooded	5	2w					
Havelock, frequently flooded	5	5w					
Spillco, occasionally flooded	5	1					
P50B			4.6	139	81	45	57
Everly	60	2e					
Kanaranzi	25	2e					
Wilmonton	10	1					
Ransom	5	1					

Table 7.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability	Bromegrass-alfalfa hay	Corn	Oats	Soybeans	Spring wheat
			Tons	Bu	Bu	Bu	Bu
P51C2			3.7	113	66	36	46
Everly, moderately eroded	40	3e					
Moneta, moderately eroded	20	3e					
Talmo, moderately eroded	20	4s					
Everly	10	2e					
Kanaranzi	5	3e					
Wilmonton	5	1					
P52D2			3.2	95	55	29	37
Moneta, moderately eroded	40	4e					
Everly, moderately eroded	20	4e					
Talmo, moderately eroded	20	6s					
Everly	10	2e					
Kanaranzi	5	3e					
Wilmonton	5	1					
P53C2			4.4	134	76	42	55
Everly, moderately eroded	55	3e					
Moneta, moderately eroded	25	3e					
Everly	10	2e					
Wilmonton	10	1					
P54D2			3.5	105	59	33	42
Moneta, moderately eroded	45	4e					
Everly, moderately eroded	40	4e					
Everly	10	2e					
Wilmonton	5	1					
P55A			3.6	120	70	38	50
Kato	90	2w					
Somewhat poorly drained soils	10	1					
P56A			3.1	90	61	33	41
Kanaranzi	80	3s					
Allendorf	10	2s					
Moderately well drained soils	10	2s					
P56B			3.0	87	59	31	40
Kanaranzi	80	3e					
Allendorf	14	2e					
Talmo	6	4s					
U3B			---	---	---	---	---
Udorthents (cut and fill land)	100	---					
U7			---	---	---	---	---
Udorthents, shallow, sanitary landfill	100	---					

Table 7.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and component name	Pct. of map unit	Land capability	Bromegrass-alfalfa hay	Corn	Oats	Soybeans	Spring wheat
			Tons	Bu	Bu	Bu	Bu
U15A			---	---	---	---	---
Havelock, frequently flooded	80	5w					
Havelock, occasionally flooded	10	2w					
Calco, frequently flooded	5	5w					
Spillco, frequently flooded	5	5w					
U24A			3.8	127	71	41	51
Havelock, occasionally flooded	80	2w					
Havelock, frequently flooded	10	5w					
Spillco, occasionally flooded	5	1					
Comfrey, occasionally flooded	3	2w					
Calco, occasionally flooded	2	2w					
W.							
Water							

Table 8.--Forage Suitability Groups

(Absence of an entry indicates that a suitability group is not assigned. See text for information about forage suitability groups)

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
GP:			
Pits, gravel	80	---	---
Udipsamments	20	---	---
L5A:			
Delft, overwash	45	S	01
Delft	35	S	01
Delft, frequently flooded	7	S	01
Terril	6	S	02
Glencoe, depressional	4	S	13
Poorly drained soils	3	S	01
L6A:			
Biscay	85	S	01
Biscay, depressional	8	S	24
Mayer	5	S	02
Cylinder	2	S	03
L78A:			
Canisteo	65	S	09
Crippin	10	S	10
Glencoe, depressional	10	S	13
Canisteo, depressional	5	S	13
Harps	5	S	09
Webster	5	S	01
L79B:			
Clarion	70	S	02
Clarion, moderately eroded	15	S	02
Nicollet	8	S	02
Ocheyedan	5	S	02
Webster	2	S	01
L83A:			
Webster	65	S	01
Glencoe, depressional	14	S	13
Canisteo	8	S	09

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
L83A:			
Nicollet	8	S	02
Poorly drained soils	5	S	01
L85A:			
Nicollet	85	S	02
Clarion	10	S	02
Webster	5	S	01
L88A:			
Lura, depressional	85	S	13
Brownton	7	S	09
Depressional soils that have an organic surface layer	5	S	14
Prinsburg	3	S	09
L96B:			
Estherville	55	S	22
Hawick	35	S	22
Biscay	2	S	01
Tomall	8	S	02
L97C:			
Hawick	60	S	22
Estherville	30	S	22
Tomall	10	S	02
L98A:			
Crippin	50	S	10
Nicollet	40	S	02
Canisteo	5	S	09
Clarion	5	S	02
L102C2:			
Omsrud, moderately eroded	45	S	02
Storden, moderately eroded	24	S	10
Omsrud	14	S	02
Terril	10	S	02
Delft	5	S	01
Crooksford	2	S	02

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
L102D2:			
Omsrud, moderately eroded	45	S	02
Storden, moderately eroded	20	S	10
Omsrud	14	S	02
Ridgeton	9	S	02
Delft	6	S	01
Terril	6	S	02
L107A:			
Canisteo	50	S	09
Glencoe, depressional	35	S	13
Harps	10	S	09
Canisteo, depressional	3	S	13
Crippin	2	S	10
L111A:			
Nicollet	80	S	02
Okabena	14	S	02
Clarion	4	S	02
Webster	2	S	01
L112A:			
Webster	80	S	01
Chetomba	10	S	01
Glencoe, depressional	6	S	13
Canisteo	2	S	09
Nicollet	2	S	02
L126A:			
Coland, occasionally flooded	80	S	01
Minneopa, occasionally flooded	10	S	08
Havelock, occasionally flooded	5	S	09
Spillville, occasionally flooded	5	S	02
L127A:			
Coland, frequently flooded	80	S	16

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
L127A:			
Minneopa, occasionally flooded	10	S	08
Havelock, frequently flooded	5	S	09
Spillville, occasionally flooded	5	S	02
L129B:			
Terril	90	S	02
Clarion	5	S	02
Delft	5	S	01
L130A:			
Okoboji mucky silty clay loam, depressional	75	S	13
Okoboji silty clay loam, depressional	15	S	13
Brownton	5	S	09
Spicer	5	S	09
L133A:			
Waldorf	80	S	01
Marna	9	S	01
Chetomba	5	S	01
Brownton	2	S	09
Lura, depressional	2	S	13
Barbert	1	S	13
Ocheda	1	S	02
L134B:			
Clarion	56	S	02
Crooksford	15	S	02
Clarion, moderately eroded	14	S	02
Nicollet	5	S	02
Swanlake	5	S	10
Terril	5	S	02
L135A:			
Okabena	85	S	02
Kingston	5	S	02

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
L135A:			
Nicollet	4	S	02
Chetomba	2	S	01
Ocheda	2	S	02
Waldorf	2	S	01
L136A:			
Crooksford	80	S	02
Nicollet	8	S	02
Clarion	7	S	02
Okabena	3	S	02
Webster	2	S	01
L137A:			
Cylinder	90	S	02
Biscay	4	S	01
Wadena	4	S	02
Linder	2	S	02
L138B:			
Estherville	85	S	22
Wadena	7	S	02
Hawick	5	S	22
Cylinder	3	S	02
L139A:			
Wadena	85	S	02
Estherville	5	S	22
Kanaranzi	5	S	02
Cylinder	3	S	02
Dickinson	2	S	07
L139B:			
Wadena	85	S	02
Estherville	7	S	22
Cylinder	3	S	02
Dickinson	3	S	07
Biscay	2	S	01
L140A:			
Ocheda	85	S	02

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
L140A:			
Guckeen	5	S	02
Collinwood	3	S	01
Nicollet	3	S	02
Clarion	2	S	02
Marna	2	S	01
L141A:			
Spillville, occasionally flooded	86	S	02
Coland, occasionally flooded	8	S	01
Hanlon, occasionally flooded	4	S	02
Havelock, occasionally flooded	2	S	09
L144A:			
Chetomba	75	S	01
Waldorf	13	S	01
Webster	5	S	01
Okoboji, depressional	3	S	13
Prinsburg	3	S	09
Okabena	1	S	02
L145A:			
Canisteo	80	S	09
Glencoe, depressional	10	S	13
Webster	5	S	01
Prinsburg	4	S	09
Crippin	1	S	10
L146A:			
Glencoe, depressional	80	S	13
Canisteo	10	S	09
Harps	10	S	09
L150A:			
Prinsburg	75	S	09
Chetomba	14	S	01
Webster	4	S	01
Canisteo	3	S	09

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
L150A:			
Okabena	2	S	02
Okoboji, depressional	2	S	13
L151A:			
Glencoe, ponded	80	S	24
Okoboji, ponded	14	S	24
Klossner, ponded	6	S	24
L152B:			
Lowlein	60	S	02
Round Lake	20	S	22
Nicollet	12	S	02
Farrar	6	S	06
Webster	2	S	01
L153A:			
Essexville	85	S	09
Canisteo	5	S	09
Glencoe, depressional	4	S	13
Belleville	3	S	03
Very poorly drained soils in depressions	2	S	13
Somewhat poorly drained soils	1	S	06
L154E:			
Belview	60	S	17
Ridgeton	22	S	23
Omsrud	14	S	23
Delft	2	S	01
Terril	2	S	02
L155A:			
Okoboji, ponded	85	S	24
Glencoe, ponded	10	S	24
Blue Earth, ponded	3	S	24
Klossner, ponded	2	S	24
L156C2:			
Omsrud, moderately eroded	44	S	02

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
L156C2:			
Storden, moderately eroded	24	S	10
Pilot Grove	20	S	22
Hawick	8	S	22
Delft	2	S	01
Terril	2	S	02
L156D2:			
Omsrud, moderately eroded	50	S	02
Storden, moderately eroded	25	S	10
Pilot Grove	15	S	22
Hawick	4	S	22
Ridgeton	2	S	02
Delft	2	S	01
Terril	2	S	02
L157A:			
Lowlein	78	S	02
Nicollet	14	S	02
Round Lake	4	S	22
Webster	2	S	01
Farrar	2	S	06
L158B:			
Round Lake	80	S	22
Lowlein	13	S	02
Ocheyedan	3	S	02
Estherville	2	S	22
Webster	2	S	01
L159A:			
Knoke, depressional	85	S	09
Okoboji, depressional	5	S	13
Essexville	4	S	09
Canisteo	3	S	09
Canisteo, depressional	3	S	13

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
L160B:			
Dickinson, loamy substratum	85	S	07
Farrar	8	S	06
Lowlein	7	S	02
L161C:			
Estherville	38	S	22
Pilot Grove	38	S	22
Well drained soils	15	S	02
Hawick	5	S	22
Delft	2	S	01
Terril	2	S	02
L162B:			
Clarion	45	S	02
Round Lake	30	S	22
Estherville	8	S	22
Lowlein	5	S	02
Nicollet	5	S	02
Swanlake	5	S	10
Webster	2	S	01
L163A:			
Okoboji, depressional	92	S	13
Canisteo	2	S	09
Harpster	2	S	13
Knoke, depressional	2	S	09
Prinsburg	2	S	09
L170B:			
Estherville	50	S	22
Round Lake	45	S	22
Lowlein	3	S	02
Poorly drained soils	2	S	01
M-W.			
Water, miscellaneous			
P1B:			
Annieville	80	S	02

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
P1B:			
McCreath	10	S	02
Galva	5	S	02
Primghar	5	S	02
P2A:			
McCreath	80	S	02
Gillett Grove	10	S	01
Annieville	5	S	02
Primghar	5	S	02
P3A:			
Biscay, occasionally flooded	85	S	01
Cylinder, occasionally flooded	10	S	02
Talcot, occasionally flooded	5	S	09
P7A:			
Comfrey, occasionally flooded	80	S	01
Colo, occasionally flooded	5	S	01
Havelock, occasionally flooded	5	S	09
Havelock, frequently flooded	5	S	16
Spillco, occasionally flooded	5	S	02
P9A:			
Gillett Grove	85	S	01
McCreath	10	S	02
Afton, frequently flooded	5	S	01
P12B:			
Everly	80	S	02
Sac	10	S	02
Ransom	5	S	02
Wilmonton	5	S	02
P12C2:			
Everly, moderately eroded	80	S	02

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
P12C2:			
Everly	10	S	02
Moneta	5	S	17
Wilmonton	5	S	02
P15B:			
Galva	80	S	02
Primghar	10	S	02
Annieville	5	S	02
Sac	5	S	02
P20B:			
Judson	80	S	02
Primghar	10	S	02
Galva	5	S	02
Whitewood, overwash	5	S	01
P21A:			
Marcus	80	S	01
Whitewood, frequently flooded	10	S	01
Primghar	5	S	02
Spicer	5	S	09
P27A:			
Primghar	80	S	02
Galva	8	S	02
Marcus	8	S	01
Judson	4	S	02
P28A:			
Ransom	80	S	02
Rushmore	8	S	01
Sac	8	S	02
Primghar	4	S	02
P29A:			
Rushmore	80	S	01
Ransom	10	S	02
Whitewood, frequently flooded	10	S	01

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
P30B:			
Sac	80	S	02
Annieville	10	S	02
Primghar	5	S	02
Ransom	5	S	02
P31A:			
Spicer	85	S	09
Marcus	10	S	01
Whitewood	5	S	01
P33A:			
Spillco, occasionally flooded	85	S	02
Spillco, frequently flooded	10	S	15
Comfrey, occasionally flooded	5	S	01
P36A:			
Talcot, occasionally flooded	85	S	09
Biscay, occasionally flooded	10	S	01
Cylinder, occasionally flooded	5	S	02
P37D:			
Talmo	90	S	22
Kanaranzi	5	S	02
Thurman	5	S	22
P38B:			
Thurman	90	S	22
Henkin	10	S	02
P38C:			
Thurman	90	S	22
Henkin	10	S	02
P43A:			
Wilmonton	85	S	02
Everly	5	S	02
Ransom	5	S	02
Rushmore	5	S	01

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
P45E:			
Moneta	85	S	17
Judson	10	S	02
Soils that are moderately deep to carbonates	5	S	17
P48A:			
Allendorf	85	S	02
Kanaranzi	5	S	02
Moderately well drained soils	5	S	02
Sac	5	S	02
P48B:			
Allendorf	85	S	02
Kanaranzi	5	S	02
Moderately well drained soils	5	S	02
Sac	5	S	02
P49A:			
Comfrey, frequently flooded	85	S	09
Comfrey, occasionally flooded	5	S	01
Havelock, frequently flooded	5	S	16
Spillco, occasionally flooded	5	S	02
P50B:			
Everly	60	S	02
Kanaranzi	25	S	02
Wilmonton	10	S	02
Ransom	5	S	02
P51C2:			
Everly, moderately eroded	40	S	02
Moneta, moderately eroded	20	S	17
Talmo, moderately eroded	20	S	18
Everly	10	S	02

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
P51C2:			
Kanaranzi	5	S	02
Wilmonton	5	S	02
P52D2:			
Moneta, moderately eroded	40	S	17
Everly, moderately eroded	20	S	02
Talmo, moderately eroded	20	S	18
Everly	10	S	02
Kanaranzi	5	S	02
Wilmonton	5	S	02
P53C2:			
Everly, moderately eroded	55	S	02
Moneta, moderately eroded	25	S	17
Everly	10	S	02
Wilmonton	10	S	02
P54D2:			
Moneta, moderately eroded	45	S	17
Everly, moderately eroded	40	S	02
Everly	10	S	02
Wilmonton	5	S	02
P55A:			
Kato	90	S	01
Somewhat poorly drained soils	10	S	01
P56A:			
Kanaranzi	80	S	02
Allendorf	10	S	02
Moderately well drained soils	10	S	02
P56B:			
Kanaranzi	80	S	02
Allendorf	14	S	02
Talmo	6	S	22

Table 8.--Forage Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Land resource unit	Forage suitability group
U3B:			
Udorthents (cut and fill land)	100	---	---
U7:			
Udorthents, shallow, sanitary landfill	100	---	---
U15A:			
Havelock, frequently flooded	80	S	16
Havelock, occasionally flooded	10	S	09
Calco, frequently flooded	5	S	16
Spillco, frequently flooded	5	S	15
U24A:			
Havelock, occasionally flooded	80	S	09
Havelock, frequently flooded	10	S	16
Spillco, occasionally flooded	5	S	02
Comfrey, occasionally flooded	3	S	01
Calco, occasionally flooded	2	S	09
W.			
Water			

Table 9.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
L5A	Delft, overwash-Delft complex, 1 to 4 percent slopes (where drained)
L6A	Biscay loam, 0 to 2 percent slopes (where drained)
L78A	Canisteo clay loam, 0 to 2 percent slopes (where drained)
L79B	Clarion loam, 2 to 5 percent slopes
L83A	Webster clay loam, 0 to 2 percent slopes (where drained)
L85A	Nicollet clay loam, 1 to 3 percent slopes
L88A	Lura silty clay, depressional, 0 to 1 percent slopes (where drained)
L98A	Crippin-Nicollet complex, 1 to 3 percent slopes
L107A	Canisteo-Glencoe, depressional, complex, 0 to 2 percent slopes (where drained)
L111A	Nicollet silty clay loam, 1 to 3 percent slopes
L112A	Webster silty clay loam, 0 to 2 percent slopes (where drained)
L126A	Coland silty clay loam, 0 to 2 percent slopes, occasionally flooded (where drained)
L129B	Terril loam, 2 to 6 percent slopes
L130A	Okoboji mucky silty clay loam, depressional, 0 to 1 percent slopes (where drained)
L133A	Waldorf silty clay loam, 0 to 2 percent slopes (where drained)
L134B	Clarion-Crooksford complex, 1 to 5 percent slopes
L135A	Okabena silty clay loam, 1 to 3 percent slopes
L136A	Crooksford silty clay loam, 1 to 3 percent slopes
L137A	Cylinder loam, 0 to 2 percent slopes
L139A	Wadena loam, 0 to 2 percent slopes
L139B	Wadena loam, 2 to 6 percent slopes
L140A	Ocheda silty clay loam, 1 to 3 percent slopes
L141A	Spillville loam, 0 to 2 percent slopes, occasionally flooded
L144A	Chetomba silty clay loam, 0 to 2 percent slopes (where drained)
L145A	Canisteo silty clay loam, 0 to 2 percent slopes (where drained)
L146A	Glencoe silty clay loam, depressional, 0 to 1 percent slopes (where drained)
L150A	Prinsburg silty clay loam, 0 to 2 percent slopes (where drained)
L152B	Lowlein-Round Lake complex, 1 to 6 percent slopes
L153A	Essexville sandy loam, 0 to 2 percent slopes (where drained)
L157A	Lowlein loam, 0 to 2 percent slopes
L159A	Knoke mucky silty clay loam, depressional, 0 to 1 percent slopes (where drained)
L160B	Dickinson sandy loam, loamy substratum, 1 to 6 percent slopes
L163A	Okoboji silty clay loam, depressional, 0 to 1 percent slopes (where drained)
P1B	Annieville silty clay loam, 2 to 5 percent slopes
P2A	McCreath silty clay loam, 1 to 3 percent slopes
P3A	Biscay silty clay loam, 0 to 2 percent slopes, occasionally flooded (where drained)
P7A	Comfrey clay loam, 0 to 2 percent slopes, occasionally flooded (where drained)
P9A	Gillett Grove silty clay loam, 0 to 2 percent slopes (where drained)
P12B	Everly silty clay loam, 2 to 6 percent slopes
P15B	Galva silty clay loam, 2 to 5 percent slopes
P21A	Marcus silty clay loam, 0 to 2 percent slopes (where drained)
P27A	Primghar silty clay loam, 1 to 3 percent slopes
P28A	Ransom silty clay loam, 1 to 3 percent slopes
P29A	Rushmore silty clay loam, 0 to 2 percent slopes (where drained)
P30B	Sac silty clay loam, 2 to 5 percent slopes
P31A	Spicer silty clay loam, 0 to 2 percent slopes (where drained)
P33A	Spillco silt loam, 0 to 2 percent slopes, occasionally flooded (where protected from flooding or not frequently flooded during the growing season)
P36A	Talcot silty clay loam, 0 to 2 percent slopes, occasionally flooded (where drained)
P43A	Wilmonton silty clay loam, 1 to 3 percent slopes
P48A	Allendorf silty clay loam, 0 to 2 percent slopes
P48B	Allendorf silty clay loam, 2 to 6 percent slopes
P50B	Everly-Kanaranzi complex, 2 to 6 percent slopes
P55A	Kato silty clay loam, 0 to 2 percent slopes (where drained)
P56A	Kanaranzi silt loam, 0 to 2 percent slopes
P56B	Kanaranzi silt loam, 2 to 6 percent slopes
U24A	Havelock clay loam, 0 to 2 percent slopes, occasionally flooded (where drained)

Table 10.--Conservation Tree/Shrub Suitability Groups

(Absence of an entry indicates that a conservation tree/shrub suitability group is not assigned)

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
GP:		
Pits, gravel	80	---
Udipsamments	20	---
L5A:		
Delft, overwash	45	1
Delft	35	2
Delft, frequently flooded	7	2
Terril	6	3
Glencoe, depressional	4	2
Poorly drained soils	3	2
L6A:		
Biscay	85	2
Biscay, depressional	8	2
Mayer	5	2K
Cylinder	2	1
L78A:		
Canisteo	65	2K
Crippin	10	1K
Glencoe, depressional	10	2
Canisteo, depressional	5	2K
Harps	5	2K
Webster	5	2
L79B:		
Clarion	70	3
Clarion, moderately eroded	15	3
Nicollet	8	1
Ocheyedan	5	3
Webster	2	2
L83A:		
Webster	65	2
Glencoe, depressional	14	2

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
L83A:		
Canisteo	8	2K
Nicollet	8	1
Poorly drained soils	5	2
L85A:		
Nicollet	85	1
Clarion	10	3
Webster	5	2
L88A:		
Lura, depressional	85	2
Brownton	7	2K
Depressional soils that have an organic surface layer	5	10
Prinsburg	3	2K
L96B:		
Estherville	55	7
Hawick	35	10
Biscay	2	3
Tomall	8	2K
L97C:		
Hawick	60	10
Estherville	30	7
Tomall	10	3
L98A:		
Crippin	50	1K
Nicollet	40	1
Canisteo	5	2K
Clarion	5	3
L102C2:		
Omsrud, moderately eroded	45	3
Storden, moderately eroded	24	3
Omsrud	14	3
Terril	10	3
Delft	5	2
Crooksford	2	3

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
L102D2:		
Omsrud, moderately eroded	45	3
Storden, moderately eroded	20	3
Omsrud	14	3
Ridgeton	9	3
Delft	6	2
Terril	6	3
L107A:		
Canisteo	50	2K
Glencoe, depressional	35	2
Harps	10	2K
Canisteo, depressional	3	2K
Crippin	2	1K
L111A:		
Nicollet	80	1
Okabena	14	1
Clarion	4	3
Webster	2	2
L112A:		
Webster	80	2
Chetomba	10	2
Glencoe, depressional	6	2
Canisteo	2	2K
Nicollet	2	1
L126A:		
Coland, occasionally flooded	80	2
Minneopa, occasionally flooded	10	7
Havelock, occasionally flooded	5	2K
Spillville, occasionally flooded	5	1
L127A:		
Coland, frequently flooded	80	2

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
L127A:		
Minneopa, occasionally flooded	10	7
Havelock, frequently flooded	5	2K
Spillville, occasionally flooded	5	1
L129B:		
Terril	90	3
Clarion	5	3
Delft	5	2
L130A:		
Okoboji mucky silty clay loam, depressional	75	2K
Okoboji silty clay loam, depressional	15	2K
Brownton	5	2K
Spicer	5	2K
L133A:		
Waldorf	80	2K
Marna	9	2
Chetomba	5	2
Brownton	2	2K
Lura, depressional	2	2
Barbert	1	2
Ocheda	1	1
L134B:		
Clarion	56	3
Crooksford	15	3
Clarion, moderately eroded	14	3
Nicollet	5	1
Swanlake	5	3
Terril	5	3
L135A:		
Okabena	85	1
Kingston	5	1

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
L135A:		
Nicollet	4	1
Chetomba	2	2
Ocheda	2	1
Waldorf	2	2K
L136A:		
Crooksford	80	3
Nicollet	8	1
Clarion	7	3
Okabena	3	1
Webster	2	2
L137A:		
Cylinder	90	1
Biscay	4	2K
Wadena	4	6G
Linder	2	1
L138B:		
Estherville	85	7
Wadena	7	6G
Hawick	5	10
Cylinder	3	1
L139A:		
Wadena	85	6G
Estherville	5	7
Kanaranzi	5	6GK
Cylinder	3	1
Dickinson	2	6G
L139B:		
Wadena	85	6G
Estherville	7	7
Cylinder	3	1
Dickinson	3	6G
Biscay	2	2K
L140A:		
Ocheda	85	1

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
L140A:		
Guckeen	5	1
Collinwood	3	1
Nicollet	3	1
Clarion	2	3
Marna	2	2
L141A:		
Spillville, occasionally flooded	86	1
Coland, occasionally flooded	8	2
Hanlon, occasionally flooded	4	3
Havelock, occasionally flooded	2	2K
L144A:		
Chetomba	75	2
Waldorf	13	2K
Webster	5	2
Okoboji, depressional	3	2K
Prinsburg	3	2K
Okabena	1	1
L145A:		
Canisteo	80	2K
Glencoe, depressional	10	2
Webster	5	2
Prinsburg	4	2K
Crippin	1	1K
L146A:		
Glencoe, depressional	80	2
Canisteo	10	2K
Harps	10	2K
L150A:		
Prinsburg	75	2K
Chetomba	14	2
Webster	4	2

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
L150A:		
Canisteo	3	2K
Okabena	2	1
Okoboji, depressional	2	2K
L151A:		
Glencoe, ponded	80	10
Okoboji, ponded	14	10
Klossner, ponded	6	10
L152B:		
Lowlein	60	6G
Round Lake	20	7
Nicollet	12	1
Farrar	6	3
Webster	2	2
L153A:		
Essexville	85	2K
Canisteo	5	2K
Glencoe, depressional	4	2
Belleville	3	2K
Very poorly drained soils in depressions	2	2
Somewhat poorly drained soils	1	1
L154E:		
Belview	60	3
Ridgeton	22	3
Omsrud	14	3
Delft	2	2
Terril	2	3
L155A:		
Okoboji, ponded	85	10
Glencoe, ponded	10	10
Blue Earth, ponded	3	10
Klossner, ponded	2	10

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
L156C2:		
Omsrud, moderately eroded	44	3
Storden, moderately eroded	24	3
Pilot Grove	20	3
Hawick	8	10
Delft	2	2
Terril	2	3
L156D2:		
Omsrud, moderately eroded	50	3
Storden, moderately eroded	25	3
Pilot Grove	15	3
Hawick	4	10
Ridgeton	2	3
Delft	2	2
Terril	2	3
L157A:		
Lowlein	78	6G
Nicollet	14	1
Round Lake	4	7
Webster	2	2
Farrar	2	3
L158B:		
Round Lake	80	7
Lowlein	13	6G
Ocheyedan	3	3
Estherville	2	7
Webster	2	2
L159A:		
Knoke, depressional	85	2K
Okoboji, depressional	5	2K
Essexville	4	2K
Canisteo	3	2K

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
L159A:		
Canisteo, depressional	3	2K
L160B:		
Dickinson, loamy substratum	85	3
Farrar	8	3
Lowlein	7	6G
L161C:		
Estherville	38	7
Pilot Grove	38	7
Well drained soils	15	3
Hawick	5	10
Delft	2	2
Terril	2	3
L162B:		
Clarion	45	3
Round Lake	30	7
Estherville	8	7
Lowlein	5	6G
Nicollet	5	1
Swanlake	5	3
Webster	2	2
L163A:		
Okoboji, depressional	92	2K
Canisteo	2	2K
Harpster	2	2K
Knoke, depressional	2	2K
Prinsburg	2	2K
L170B:		
Estherville	50	7
Round Lake	45	7
Lowlein	3	6G
Poorly drained soils	2	2
M-W.		
Water, miscellaneous		

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
P1B:		
Annieville	80	3
McCreath	10	1
Galva	5	3
Primghar	5	1
P2A:		
McCreath	80	1
Gillett Grove	10	2
Annieville	5	3
Primghar	5	1
P3A:		
Biscay, occasionally flooded	85	2
Cylinder, occasionally flooded	10	1
Talcot, occasionally flooded	5	2K
P7A:		
Comfrey, occasionally flooded	80	2
Colo, occasionally flooded	5	2
Havelock, occasionally flooded	5	2K
Havelock, frequently flooded	5	2K
Spillco, occasionally flooded	5	3
P9A:		
Gillett Grove	85	2
McCreath	10	1
Afton, frequently flooded	5	2
P12B:		
Everly	80	3
Sac	10	3
Ransom	5	1
Wilmonton	5	1

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
P12C2:		
Everly, moderately eroded	80	3
Everly	10	3
Moneta	5	3
Wilmonton	5	1
P15B:		
Galva	80	3
Primghar	10	1
Annieville	5	3
Sac	5	3
P20B:		
Judson	80	3
Primghar	10	1
Galva	5	3
Whitewood, overwash	5	1
P21A:		
Marcus	80	2
Whitewood, frequently flooded	10	2
Primghar	5	1
Spicer	5	2K
P27A:		
Primghar	80	1
Galva	8	3
Marcus	8	2
Judson	4	3
P28A:		
Ransom	80	1
Rushmore	8	2
Sac	8	3
Primghar	4	1
P29A:		
Rushmore	80	2
Ransom	10	1
Whitewood, frequently flooded	10	2

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
P30B:		
Sac	80	3
Annieville	10	3
Primghar	5	1
Ransom	5	1
P31A:		
Spicer	85	2K
Marcus	10	2
Whitewood	5	2
P33A:		
Spillco, occasionally flooded	85	3
Spillco, frequently flooded	10	2K
Comfrey, occasionally flooded	5	2
P36A:		
Talcot, occasionally flooded	85	2K
Biscay, occasionally flooded	10	2
Cylinder, occasionally flooded	5	1
P37D:		
Talmo	90	10
Kanaranzi	5	6GK
Thurman	5	7
P38B:		
Thurman	90	7
Henkin	10	5
P38C:		
Thurman	90	7
Henkin	10	5
P43A:		
Wilmonton	85	1
Everly	5	3
Ransom	5	1
Rushmore	5	2

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
P45E:		
Moneta	85	3
Judson	10	3
Soils that are moderately deep to carbonates	5	3
P48A:		
Allendorf	85	6G
Kanaranzi	5	6GK
Moderately well drained soils	5	6G
Sac	5	3
P48B:		
Allendorf	85	6G
Kanaranzi	5	6GK
Moderately well drained soils	5	6G
Sac	5	3
P49A:		
Comfrey, frequently flooded	85	2
Comfrey, occasionally flooded	5	2
Havelock, frequently flooded	5	2K
Spillco, occasionally flooded	5	3
P50B:		
Everly	60	3
Kanaranzi	25	6GK
Wilmonton	10	1
Ransom	5	1
P51C2:		
Everly, moderately eroded	40	3
Moneta, moderately eroded	20	3
Talmo, moderately eroded	20	10
Everly	10	3

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
P51C2:		
Kanaranzi	5	6GK
Wilmonton	5	1
P52D2:		
Moneta, moderately eroded	40	3
Everly, moderately eroded	20	3
Talmo, moderately eroded	20	10
Everly	10	3
Kanaranzi	5	6GK
Wilmonton	5	1
P53C2:		
Everly, moderately eroded	55	3
Moneta, moderately eroded	25	3
Everly	10	3
Wilmonton	10	1
P54D2:		
Moneta, moderately eroded	45	3
Everly, moderately eroded	40	3
Everly	10	3
Wilmonton	5	1
P55A:		
Kato	90	2
Somewhat poorly drained soils	10	1
P56A:		
Kanaranzi	80	6GK
Allendorf	10	6G
Moderately well drained soils	10	6GK
P56B:		
Kanaranzi	80	6GK
Allendorf	14	6G
Talmo	6	10

Table 10.--Conservation Tree/Shrub Suitability Groups--Continued

Map symbol and component name	Pct. of map unit	Conservation tree/shrub suitability group
U3B:		
Udorthents (cut and fill land)	100	---
U7:		
Udorthents, shallow, sanitary landfill	100	---
U15A:		
Havelock, frequently flooded	80	2K
Havelock, occasionally flooded	10	2K
Calco, frequently flooded	5	2K
Spillco, frequently flooded	5	2K
U24A:		
Havelock, occasionally flooded	80	2K
Havelock, frequently flooded	10	2K
Spillco, occasionally flooded	5	3
Comfrey, occasionally flooded	3	2
Calco, occasionally flooded	2	2K
W.		
Water		

Table 11a.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GP:							
Pits, gravel--------	80	Not rated		Not rated		Not rated	
Udipsamments--------	20	Not rated		Not rated		Not rated	
L5A:							
Delft, overwash-----	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Restricted permeability	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Delft----------	35	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Delft, frequently flooded----------	7	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
Terril----------	6	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Glencoe, depressional-------	4	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
Poorly drained soils	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L6A:							
Biscay----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Biscay, depressional	8	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
Mayer----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Cylinder----------	2	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.90	Depth to saturated zone	1.00

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L78A:							
Canisteo	65	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Crippin	10	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.99
Glencoe, depressional	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Canisteo, depressional	5	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Harps	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Webster	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L79B:							
Clarion	70	Not limited		Not limited		Somewhat limited Slope	0.50
Clarion, moderately eroded	15	Not limited		Not limited		Somewhat limited Slope	0.50
Nicollet	8	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.99
Ocheyedan	5	Not limited		Not limited		Somewhat limited Slope	0.50
Webster	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L83A:							
Webster	65	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Glencoe, depressional	14	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L83A:							
Canisteo----------	8	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nicollet----------	8	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
Poorly drained soils	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L85A:							
Nicollet----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
Clarion----------	10	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Webster----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L88A:							
Lura, depressional--	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Too clayey	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Restricted permeability	0.94
Brownton----------	7	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	0.94	Restricted permeability	0.94	Restricted permeability	0.94
Depressional soils that have an organic surface layer----------	5	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
Prinsburg----------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L96B:							
Estherville---------	55	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Hawick----------	35	Not limited		Not limited		Somewhat limited	
						Slope	0.50

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
L96B:							
Biscay	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Tomall	8	Not limited		Not limited		Not limited	
L97C:							
Hawick	60	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope Gravel content	1.00 0.90
Estherville	30	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Tomall	10	Not limited		Not limited		Not limited	
L98A:							
Crippin	50	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.99
Nicollet	40	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.99
Canisteo	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Clarion	5	Not limited		Not limited		Somewhat limited Slope	0.50
L102C2:							
Omsrud, moderately eroded	45	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Storden, moderately eroded	24	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Omsrud	14	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
Terril	10	Not limited		Not limited		Somewhat limited Slope	0.50
Delft	5	Very limited Depth to saturated zone Restricted permeability	1.00 0.15	Very limited Depth to saturated zone Restricted permeability	1.00 0.15	Very limited Depth to saturated zone Restricted permeability	1.00 0.15
Crooksford	2	Somewhat limited Depth to saturated zone	0.01	Not limited		Somewhat limited Slope Depth to saturated zone	0.12 0.01

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L102D2:							
Omsrud, moderately eroded	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Storden, moderately eroded	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Omsrud	14	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Ridgeton	9	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Delft	6	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Terril	6	Not limited		Not limited		Somewhat limited	
						Slope	0.88
L107A:							
Canisteo	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Glencoe, depressional	35	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
Harps	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Canisteo, depressional	3	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
Crippin	2	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
L111A:							
Nicollet	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
Okabena	14	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L111A:							
Clarion----------	4	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Webster----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L112A:							
Webster----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Chetomba----------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Glencoe, depressional-------	6	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
Canisteo----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nicollet----------	2	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
L126A:							
Coland, occasionally flooded----------	80	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
Minneopa, occasionally flooded----------	10	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
Havelock, occasionally flooded----------	5	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
Spillville, occasionally flooded----------	5	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Depth to saturated zone	0.99			Flooding	0.60

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L127A:							
Coland, frequently flooded	80	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
Minneopa, occasionally flooded	10	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
Havelock, frequently flooded	5	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
Spillville, occasionally flooded	5	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Depth to saturated zone	0.99			Flooding	0.60
L129B:							
Terril	90	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Clarion	5	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Delft	5	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15
L130A:							
Okoboji mucky silty clay loam, depressional	75	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
Okoboji silty clay loam, depressional	15	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L130A:							
Brownton----------	5	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	0.94	Restricted permeability	0.94	Restricted permeability	0.94
Spicer----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L133A:							
Waldorf----------	80	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
Marna----------	9	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
Chetomba----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Brownton----------	2	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	0.94	Restricted permeability	0.94	Restricted permeability	0.94
Lura, depressional--	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Too clayey	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Restricted permeability	0.94	Restricted permeability	0.94	Restricted permeability	0.94
Barbert----------	1	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	0.94	Restricted permeability	0.94	Restricted permeability	0.94
Ocheda----------	1	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.60	Restricted permeability	0.60	Restricted permeability	0.60
L134B:							
Clarion----------	56	Not limited		Not limited		Somewhat limited	
						Slope	0.50

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L134B:							
Crooksford----------	15	Somewhat limited Depth to saturated zone	0.01	Not limited		Somewhat limited Slope Depth to saturated zone	0.12 0.01
Clarion, moderately eroded----------	14	Not limited		Not limited		Somewhat limited Slope	0.50
Nicollet----------	5	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.99
Swanlake----------	5	Not limited		Not limited		Somewhat limited Slope	0.50
Terril----------	5	Not limited		Not limited		Somewhat limited Slope	0.50
L135A:							
Okabena----------	85	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.99
Kingston----------	5	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.99
Nicollet----------	4	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.99
Chetomba----------	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Ocheda----------	2	Somewhat limited Depth to saturated zone Restricted permeability	0.99 0.60	Somewhat limited Depth to saturated zone Restricted permeability	0.78 0.60	Somewhat limited Depth to saturated zone Restricted permeability	0.99 0.60
Waldorf----------	2	Very limited Depth to saturated zone Restricted permeability	1.00 0.43	Very limited Depth to saturated zone Restricted permeability	1.00 0.43	Very limited Depth to saturated zone Restricted permeability	1.00 0.43
L136A:							
Crooksford----------	80	Somewhat limited Depth to saturated zone	0.01	Not limited		Somewhat limited Depth to saturated zone	0.01
Nicollet----------	8	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.99

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L136A:							
Clarion----------	7	Not limited		Not limited		Somewhat limited Slope	0.50
Okabena----------	3	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.99
Webster----------	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L137A:							
Cylinder----------	90	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.90	Very limited Depth to saturated zone	1.00
Biscay----------	4	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Wadena----------	4	Not limited		Not limited		Somewhat limited Slope	0.12
Linder----------	2	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.90	Very limited Depth to saturated zone	1.00
L138B:							
Estherville---------	85	Not limited		Not limited		Somewhat limited Slope	0.50
Wadena----------	7	Not limited		Not limited		Somewhat limited Slope	0.28
Hawick----------	5	Not limited		Not limited		Somewhat limited Slope	0.50
Cylinder----------	3	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.90	Very limited Depth to saturated zone	1.00
L139A:							
Wadena----------	85	Not limited		Not limited		Not limited	
Estherville---------	5	Not limited		Not limited		Not limited	
Kanaranzi----------	5	Not limited		Not limited		Not limited	
Cylinder----------	3	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.90	Very limited Depth to saturated zone	1.00
Dickinson----------	2	Not limited		Not limited		Not limited	
L139B:							
Wadena----------	85	Not limited		Not limited		Somewhat limited Slope	0.28

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L139B:							
Estherville---------	7	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Cylinder----------	3	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.90	Depth to saturated zone	1.00
Dickinson----------	3	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Biscay----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L140A:							
Ocheda----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.60	Restricted permeability	0.60	Restricted permeability	0.60
Guckeen----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.43	Restricted permeability	0.43	Restricted permeability	0.43
Collinwood----------	3	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.60	Restricted permeability	0.60	Restricted permeability	0.60
Nicollet----------	3	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
Clarion----------	2	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Marna----------	2	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
L141A:							
Spillville, occasionally flooded----------	86	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Depth to saturated zone	0.99			Flooding	0.60

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L141A:							
Coland, occasionally flooded	8	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
Hanlon, occasionally flooded	4	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Depth to saturated zone	0.01
		Depth to saturated zone	0.01				
Havelock, occasionally flooded	2	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
L144A:							
Chetomba	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Waldorf	13	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
Webster	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Okoboji, depressional	3	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Prinsburg	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Okabena	1	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
L145A:							
Canisteo	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L145A:							
Glencoe, depressional-------	10	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
Webster----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Prinsburg----------	4	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Crippin----------	1	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
L146A:							
Glencoe, depressional-------	80	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
Canisteo----------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Harps----------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L150A:							
Prinsburg----------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Chetomba----------	14	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Webster----------	4	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Canisteo----------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Okabena----------	2	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L150A:							
Okoboji, depressional-------	2	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15
L151A:							
Glencoe, ponded-----	80	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
Okoboji, ponded-----	14	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Klossner, ponded----	6	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	Content of organic matter	1.00
		Content of organic matter	1.00	Content of organic matter	1.00	Ponding	1.00
L152B:							
Lowlein----------	60	Somewhat limited		Not limited		Somewhat limited	
		Depth to saturated zone	0.01			Slope	0.50
						Depth to saturated zone	0.01
Round Lake----------	20	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Nicollet----------	12	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
Farrar----------	6	Not limited		Not limited		Somewhat limited	
						Slope	0.28
Webster----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L153A:							
Essexville----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Canisteo----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L153A:							
Glencoe, depressional-------	4	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
Belleville----------	3	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
Very poorly drained soils in depressions--------	2	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
Somewhat poorly drained soils------	1	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.90	Depth to saturated zone	1.00
		Too sandy	0.46	Too sandy	0.46	Too sandy	0.46
						Slope	0.03
L154E:							
Belview----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Ridgeton----------	22	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Omsrud----------	14	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Delft----------	2	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Terril----------	2	Not limited		Not limited		Somewhat limited	
						Slope	0.88
L155A:							
Okoboji, ponded-----	85	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Glencoe, ponded-----	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L155A:							
Blue Earth, ponded--	3	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
Klossner, ponded----	2	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	Content of organic matter	1.00
		Content of organic matter	1.00	Content of organic matter	1.00	Ponding	1.00
L156C2:							
Omsrud, moderately eroded----------	44	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Storden, moderately eroded----------	24	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Pilot Grove---------	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Hawick----------	8	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
						Gravel content	0.90
Delft----------	2	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Terril----------	2	Not limited		Not limited		Somewhat limited	
						Slope	0.50
L156D2:							
Omsrud, moderately eroded----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Storden, moderately eroded----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Pilot Grove---------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Hawick----------	4	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
						Gravel content	0.90
Ridgeton----------	2	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L156D2:							
Delft	2	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Terril	2	Not limited		Not limited		Somewhat limited	
						Slope	0.88
L157A:							
Lowlein	78	Somewhat limited		Not limited		Somewhat limited	
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
Nicollet	14	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
Round Lake	4	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Webster	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Farrar	2	Not limited		Not limited		Somewhat limited	
						Slope	0.28
L158B:							
Round Lake	80	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Lowlein	13	Somewhat limited		Not limited		Somewhat limited	
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
Ocheyedan	3	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Estherville	2	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Webster	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L159A:							
Knoke, depressional	85	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L159A:							
Okoboji, depressional-------	5	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Essexville----------	4	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Canisteo----------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Canisteo, depressional-------	3	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
L160B:							
Dickinson, loamy substratum---------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Farrar----------	8	Not limited		Not limited		Somewhat limited	
						Slope	0.28
Lowlein----------	7	Somewhat limited		Not limited		Somewhat limited	
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
L161C:							
Estherville---------	38	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Pilot Grove---------	38	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Well drained soils--	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Hawick----------	5	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
						Gravel content	0.90
Delft----------	2	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Terril----------	2	Not limited		Not limited		Somewhat limited	
						Slope	0.50

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L162B:							
Clarion----------	45	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Round Lake----------	30	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Estherville---------	8	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Lowlein----------	5	Somewhat limited		Not limited		Somewhat limited	
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
Nicollet----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
Swanlake----------	5	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Webster----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L163A:							
Okoboji, depressional-------	92	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Canisteo----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Harpster----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Knoke, depressional	2	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	0.15	Restricted permeability	0.15	Restricted permeability	0.15
Prinsburg----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L170B:							
Estherville---------	50	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Round Lake----------	45	Not limited		Not limited		Somewhat limited	
						Slope	0.50

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L170B:							
Lowlein----------	3	Somewhat limited Depth to saturated zone	0.01	Not limited		Somewhat limited Depth to saturated zone	0.01
Poorly drained soils	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
M-W:							
Water, miscellaneous	100	Not rated		Not rated		Not rated	
P1B:							
Annieville----------	80	Not limited		Not limited		Somewhat limited Slope	0.12
McCreath----------	10	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.99
Galva----------	5	Not limited		Not limited		Somewhat limited Slope	0.12
Primghar----------	5	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.99
P2A:							
McCreath----------	80	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.99
Gillett Grove-------	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Annieville----------	5	Not limited		Not limited		Somewhat limited Slope	0.12
Primghar----------	5	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.99
P3A:							
Biscay, occasionally flooded----------	85	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Cylinder, occasionally flooded----------	10	Very limited Depth to saturated zone Flooding	1.00 1.00	Somewhat limited Depth to saturated zone	0.90	Very limited Depth to saturated zone Flooding	1.00 0.60

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
P3A:							
Talcot, occasionally flooded----------	5	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
P7A:							
Comfrey, occasionally flooded----------	80	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
Colo, occasionally flooded----------	5	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
Havelock, occasionally flooded----------	5	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
Havelock, frequently flooded----------	5	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
Spillco, occasionally flooded----------	5	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
P9A:							
Gillett Grove-------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
McCreath----------	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
Afton, frequently flooded----------	5	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
		Restricted permeability	0.22	Restricted permeability	0.22	Restricted permeability	0.22

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
P12B:							
Everly	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	0.50
						Restricted permeability	0.26
Sac	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
		Depth to saturated zone	0.01			Slope	0.12
						Depth to saturated zone	0.01
Ransom	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Wilmonton	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
P12C2:							
Everly, moderately eroded	80	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	1.00
		Slope	0.04	Slope	0.04	Restricted permeability	0.26
Everly	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	0.50
						Restricted permeability	0.26
Moneta	5	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Wilmonton	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
P15B:							
Galva	80	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Primghar	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
Annieville	5	Not limited		Not limited		Somewhat limited	
						Slope	0.12

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
P15B:							
Sac	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
		Depth to saturated zone	0.01			Slope	0.12
						Depth to saturated zone	0.01
P20B:							
Judson	80	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Primghar	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
Galva	5	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Whitewood, overwash	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
P21A:							
Marcus	80	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	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Whitewood, frequently flooded	10	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
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Primghar	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
Spicer	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
P27A:							
Primghar	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
Galva	8	Not limited		Not limited		Somewhat limited	
						Slope	0.12

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
P27A:							
Marcus	8	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	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Judson	4	Not limited		Not limited		Not limited	
P28A:							
Ransom	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Rushmore	8	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	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Sac	8	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
		Depth to saturated zone	0.01			Slope	0.12
						Depth to saturated zone	0.01
Primghar	4	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
P29A:							
Rushmore	80	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	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Ransom	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Whitewood, frequently flooded	10	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
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
P30B:							
Sac----------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
		Depth to saturated zone	0.01			Slope	0.12
						Depth to saturated zone	0.01
Annieville----------	10	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Primghar----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
Ransom----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
P31A:							
Spicer----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Marcus----------	10	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	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Whitewood----------	5	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	0.26	Restricted permeability	0.26	Restricted permeability	0.26
P33A:							
Spillco, occasionally flooded----------	85	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
Spillco, frequently flooded----------	10	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
Comfrey, occasionally flooded----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00			Flooding	0.60

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
P36A:							
Talcot, occasionally flooded	85	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
Biscay, occasionally flooded	10	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
Cylinder, occasionally flooded	5	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.90	Depth to saturated zone	1.00
		Flooding	1.00			Flooding	0.60
P37D:							
Talmo	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.14	Gravel content	0.14	Gravel content	1.00
Kanaranzi	5	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Thurman	5	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
P38B:							
Thurman	90	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Henkin	10	Not limited		Not limited		Somewhat limited	
						Slope	0.50
P38C:							
Thurman	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Henkin	10	Not limited		Not limited		Very limited	
						Slope	1.00
P43A:							
Wilmonton	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Everly	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	0.50
						Restricted permeability	0.26

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
P43A:							
Ransom----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Rushmore----------	5	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	0.26	Restricted permeability	0.26	Restricted permeability	0.26
P45E:							
Moneta----------	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Judson----------	10	Not limited		Not limited		Somewhat limited	
						Slope	0.88
Soils that are moderately deep to carbonates---------	5	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
P48A:							
Allendorf----------	85	Not limited		Not limited		Not limited	
Kanaranzi----------	5	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Moderately well drained soils------	5	Somewhat limited		Not limited		Somewhat limited	
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
Sac----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
		Depth to saturated zone	0.01			Slope	0.12
						Depth to saturated zone	0.01
P48B:							
Allendorf----------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Kanaranzi----------	5	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Moderately well drained soils------	5	Somewhat limited		Not limited		Somewhat limited	
		Depth to saturated zone	0.01			Depth to saturated zone	0.01

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
P48B:							
Sac	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
		Depth to saturated zone	0.01			Slope	0.12
						Depth to saturated zone	0.01
P49A:							
Comfrey, frequently flooded	85	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
Comfrey, occasionally flooded	5	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
Havelock, frequently flooded	5	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
Spillco, occasionally flooded	5	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
P50B:							
Everly	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	0.50
						Restricted permeability	0.26
Kanaranzi	25	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Wilmonton	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Ransom	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
P51C2:							
Everly, moderately eroded	40	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	1.00
		Slope	0.04	Slope	0.04	Restricted permeability	0.26
Moneta, moderately eroded	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Talmo, moderately eroded	20	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.14	Gravel content	0.14	Slope	1.00
		Slope	0.04	Slope	0.04	Gravel content	1.00
Everly	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	0.50
						Restricted permeability	0.26
Kanaranzi	5	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Wilmonton	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
P52D2:							
Moneta, moderately eroded	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Everly, moderately eroded	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Talmo, moderately eroded	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Gravel content	0.14	Gravel content	0.14	Gravel content	1.00
Everly	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	0.50
						Restricted permeability	0.26
		Depth to saturated zone	0.01			Depth to saturated zone	0.01

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
P52D2:							
Kanaranzi----------	5	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Wilmonton----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
P53C2:							
Everly, moderately eroded----------	55	Somewhat limited		Somewhat limited		Very limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	1.00
		Slope	0.04	Slope	0.04	Restricted permeability	0.26
Moneta, moderately eroded----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Everly----------	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	0.50
						Restricted permeability	0.26
Wilmonton----------	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
P54D2:							
Moneta, moderately eroded----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
Everly, moderately eroded----------	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
Everly----------	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.26	Restricted permeability	0.26	Slope	0.50
		Depth to saturated zone	0.01			Restricted permeability	0.26
						Depth to saturated zone	0.01

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
P54D2:							
Wilmonton----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.78	Depth to saturated zone	0.99
		Restricted permeability	0.26	Restricted permeability	0.26	Restricted permeability	0.26
P55A:							
Kato----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Somewhat poorly drained soils------	10	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.90	Depth to saturated zone	1.00
P56A:							
Kanaranzi----------	80	Not limited		Not limited		Not limited	
Allendorf----------	10	Not limited		Not limited		Not limited	
Moderately well drained soils------	10	Somewhat limited		Not limited		Somewhat limited	
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
P56B:							
Kanaranzi----------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Allendorf----------	14	Not limited		Not limited		Somewhat limited	
						Slope	0.50
Talmo----------	6	Somewhat limited		Somewhat limited		Very limited	
		Gravel content	0.14	Gravel content	0.14	Gravel content	1.00
						Slope	0.50
U3B:							
Udorthents (cut and fill land)---------	100	Not rated		Not rated		Not rated	
U7:							
Udorthents, shallow, sanitary landfill--	100	Not rated		Not rated		Not rated	
U15A:							
Havelock, frequently flooded----------	80	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
Havelock, occasionally flooded----------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00			Flooding	0.60

Table 11a.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
U15A:							
Calco, frequently flooded	5	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
Spillco, frequently flooded	5	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Flooding	0.40	Flooding	1.00
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
U24A:							
Havelock, occasionally flooded	80	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
Havelock, frequently flooded	10	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
Spillco, occasionally flooded	5	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
Comfrey, occasionally flooded	3	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
Calco, occasionally flooded	2	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
W:							
Water	100	Not rated		Not rated		Not rated	

Table 11b.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	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
GP:							
Pits, gravel--------	80	Not rated		Not rated		Not rated	
Udipsamments--------	20	Not rated		Not rated		Not rated	
L5A:							
Delft, overwash-----	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Delft----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Delft, frequently flooded----------	7	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
Terril----------	6	Not limited		Not limited		Not limited	
Glencoe, depressional-------	4	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
Poorly drained soils	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L6A:							
Biscay----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Biscay, depressional	8	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
Mayer----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Cylinder----------	2	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.78	Depth to saturated zone	0.78	Depth to saturated zone	0.90

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L78A:							
Canisteo----------	65	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Crippin----------	10	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Glencoe, depressional-------	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Canisteo, depressional-------	5	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Harps----------	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Webster----------	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L79B:							
Clarion----------	70	Not limited		Not limited		Not limited	
Clarion, moderately eroded----------	15	Not limited		Not limited		Not limited	
Nicollet----------	8	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Ocheyedan----------	5	Not limited		Not limited		Not limited	
Webster----------	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L83A:							
Webster----------	65	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Glencoe, depressional-------	14	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L83A:							
Canisteo----------	8	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
Nicollet----------	8	Somewhat limited Depth to saturated zone	 0.50	Somewhat limited Depth to saturated zone	 0.50	Somewhat limited Depth to saturated zone	 0.78
Poorly drained soils	5	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
L85A:							
Nicollet----------	85	Somewhat limited Depth to saturated zone	 0.50	Somewhat limited Depth to saturated zone	 0.50	Somewhat limited Depth to saturated zone	 0.78
Clarion----------	10	Not limited		Not limited		Not limited	
Webster----------	5	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
L88A:							
Lura, depressional--	85	Very limited Depth to saturated zone Too clayey Ponding	 1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Ponding	 1.00 1.00 1.00	Very limited Too clayey Depth to saturated zone Ponding	 1.00 1.00 1.00
Brownton----------	7	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
Depressional soils that have an organic surface layer----------	5	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00
Prinsburg----------	3	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
L96B:							
Estherville---------	55	Not limited		Not limited		Somewhat limited Droughty	 0.12
Hawick----------	35	Not limited		Not limited		Very limited Droughty	 1.00
Biscay----------	2	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
Tomall----------	8	Not limited		Not limited		Not limited	

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L97C:							
Hawick	60	Not limited		Not limited		Very limited	
						Droughty	1.00
						Slope	0.04
Estherville	30	Not limited		Not limited		Somewhat limited	
						Droughty	0.12
						Slope	0.04
Tomall	10	Not limited		Not limited		Not limited	
L98A:							
Crippin	50	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
Nicollet	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
Canisteo	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Clarion	5	Not limited		Not limited		Not limited	
L102C2:							
Omsrud, moderately eroded	45	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Storden, moderately eroded	24	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Omsrud	14	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Terril	10	Not limited		Not limited		Not limited	
Delft	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Crooksford	2	Not limited		Not limited		Not limited	
L102D2:							
Omsrud, moderately eroded	45	Not limited		Not limited		Very limited	
						Slope	1.00
Storden, moderately eroded	20	Not limited		Not limited		Very limited	
						Slope	1.00
Omsrud	14	Not limited		Not limited		Very limited	
						Slope	1.00

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L102D2:							
Ridgeton	9	Not limited		Not limited		Somewhat limited Slope	 0.63
Delft	6	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
Terril	6	Not limited		Not limited		Not limited	
L107A:							
Canisteo	50	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
Glencoe, depressional	35	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00
Harps	10	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
Canisteo, depressional	3	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00
Crippin	2	Somewhat limited Depth to saturated zone	 0.50	Somewhat limited Depth to saturated zone	 0.50	Somewhat limited Depth to saturated zone	 0.78
L111A:							
Nicollet	80	Somewhat limited Depth to saturated zone	 0.50	Somewhat limited Depth to saturated zone	 0.50	Somewhat limited Depth to saturated zone	 0.78
Okabena	14	Somewhat limited Depth to saturated zone	 0.50	Somewhat limited Depth to saturated zone	 0.50	Somewhat limited Depth to saturated zone	 0.78
Clarion	4	Not limited		Not limited		Not limited	
Webster	2	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
L112A:							
Webster	80	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
Chetomba	10	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L112A:							
Glencoe, depressional-------	6	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
Canisteo----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nicollet----------	2	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
L126A:							
Coland, occasionally flooded----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Flooding	0.60
Minneopa, occasionally flooded----------	10	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
						Droughty	0.01
Havelock, occasionally flooded----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Flooding	0.60
Spillville, occasionally flooded----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
						Flooding	0.60
L127A:							
Coland, frequently flooded----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
Minneopa, occasionally flooded----------	10	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
Havelock, frequently flooded----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L127A:							
Spillville, occasionally flooded	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
						Flooding	0.60
L129B:							
Terril	90	Not limited		Not limited		Not limited	
Clarion	5	Not limited		Not limited		Not limited	
Delft	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L130A:							
Okoboji mucky silty clay loam, depressional	75	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
Okoboji silty clay loam, depressional	15	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
Brownton	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Spicer	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L133A:							
Waldorf	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Marna	9	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Chetomba	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Brownton	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L133A:							
Lura, depressional--	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Too clayey	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
Barbert----------	1	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
Ocheda----------	1	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
L134B:							
Clarion----------	56	Not limited		Not limited		Not limited	
Crooksford----------	15	Not limited		Not limited		Not limited	
Clarion, moderately eroded----------	14	Not limited		Not limited		Not limited	
Nicollet----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
Swanlake----------	5	Not limited		Not limited		Not limited	
Terril----------	5	Not limited		Not limited		Not limited	
L135A:							
Okabena----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
Kingston----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
Nicollet----------	4	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
Chetomba----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Ocheda----------	2	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
Waldorf----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L136A:							
Crooksford----------	80	Not limited		Not limited		Not limited	
Nicollet----------	8	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Clarion----------	7	Not limited		Not limited		Not limited	
Okabena----------	3	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Webster----------	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L137A:							
Cylinder----------	90	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.90
Biscay----------	4	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Wadena----------	4	Not limited		Not limited		Not limited	
Linder----------	2	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.90
L138B:							
Estherville---------	85	Not limited		Not limited		Somewhat limited Droughty	0.12
Wadena----------	7	Not limited		Not limited		Not limited	
Hawick----------	5	Not limited		Not limited		Very limited Droughty	1.00
Cylinder----------	3	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.90
L139A:							
Wadena----------	85	Not limited		Not limited		Not limited	
Estherville---------	5	Not limited		Not limited		Somewhat limited Droughty	0.12
Kanaranzi----------	5	Not limited		Not limited		Not limited	
Cylinder----------	3	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.90
Dickinson----------	2	Not limited		Not limited		Not limited	

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L139B:							
Wadena	85	Not limited		Not limited		Not limited	
Estherville	7	Not limited		Not limited		Somewhat limited Droughty	0.12
Cylinder	3	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.90
Dickinson	3	Not limited		Not limited		Not limited	
Biscay	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L140A:							
Ocheda	85	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Guckeen	5	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Collinwood	3	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Nicollet	3	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Clarion	2	Not limited		Not limited		Not limited	
Marna	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L141A:							
Spillville, occasionally flooded	86	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone Flooding	0.78 0.60
Coland, occasionally flooded	8	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Hanlon, occasionally flooded	4	Not limited		Not limited		Not limited	

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L141A:							
Havelock, occasionally flooded	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Flooding	0.60
L144A:							
Chetomba	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Waldorf	13	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Webster	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Okoboji, depressional	3	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
Prinsburg	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Okabena	1	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
L145A:							
Canisteo	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Glencoe, depressional	10	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
Webster	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Prinsburg	4	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Crippin	1	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L146A:							
Glencoe, depressional-------	80	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
Canisteo----------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Harps----------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L150A:							
Prinsburg----------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Chetomba----------	14	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Webster----------	4	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Canisteo----------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Okabena----------	2	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
Okoboji, depressional-------	2	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
L151A:							
Glencoe, ponded-----	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
Okoboji, ponded-----	14	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
Klossner, ponded----	6	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L152B:							
Lowlein	60	Not limited		Not limited		Not limited	
Round Lake	20	Not limited		Not limited		Somewhat limited Droughty	0.45
Nicollet	12	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Farrar	6	Not limited		Not limited		Not limited	
Webster	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L153A:							
Essexville	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Canisteo	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Glencoe, depressional	4	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Belleville	3	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Very poorly drained soils in depressions	2	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Somewhat poorly drained soils	1	Somewhat limited Depth to saturated zone Too sandy	0.78 0.46	Somewhat limited Depth to saturated zone Too sandy	0.78 0.46	Somewhat limited Depth to saturated zone	0.90
L154E:							
Belview	60	Somewhat limited Slope	0.98	Not limited		Very limited Slope	1.00
Ridgeton	22	Somewhat limited Slope	0.92	Not limited		Very limited Slope	1.00
Omsrud	14	Somewhat limited Slope	0.08	Not limited		Very limited Slope	1.00

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L154E:							
Delft----------	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Terril----------	2	Not limited		Not limited		Not limited	
L155A:							
Okoboji, ponded-----	85	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Glencoe, ponded-----	10	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Blue Earth, ponded--	3	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Klossner, ponded----	2	Very limited Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Content of organic matter Ponding	1.00 1.00 1.00	Very limited Ponding Content of organic matter Depth to saturated zone	1.00 1.00 1.00
L156C2:							
Omsrud, moderately eroded----------	44	Not limited		Not limited		Somewhat limited Slope	0.04
Storden, moderately eroded----------	24	Not limited		Not limited		Somewhat limited Slope	0.04
Pilot Grove---------	20	Not limited		Not limited		Somewhat limited Droughty Slope	0.17 0.04
Hawick----------	8	Not limited		Not limited		Very limited Droughty Slope	1.00 0.04
Delft----------	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Terril----------	2	Not limited		Not limited		Not limited	
L156D2:							
Omsrud, moderately eroded----------	50	Not limited		Not limited		Very limited Slope	1.00

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L156D2:							
Storden, moderately eroded	25	Not limited		Not limited		Very limited	
						Slope	1.00
Pilot Grove	15	Not limited		Not limited		Very limited	
						Slope	1.00
						Droughty	0.17
Hawick	4	Not limited		Not limited		Very limited	
						Slope	1.00
						Droughty	1.00
Ridgeton	2	Not limited		Not limited		Somewhat limited	
						Slope	0.63
Delft	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Terril	2	Not limited		Not limited		Not limited	
L157A:							
Lowlein	78	Not limited		Not limited		Not limited	
Nicollet	14	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
Round Lake	4	Not limited		Not limited		Somewhat limited	
						Droughty	0.45
Webster	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Farrar	2	Not limited		Not limited		Not limited	
L158B:							
Round Lake	80	Not limited		Not limited		Somewhat limited	
						Droughty	0.45
Lowlein	13	Not limited		Not limited		Not limited	
Ocheyedan	3	Not limited		Not limited		Not limited	
Estherville	2	Not limited		Not limited		Somewhat limited	
						Droughty	0.12
Webster	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L159A:							
Knoke, depressional	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L159A:							
Okoboji, depressional-------	5	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
Essexville----------	4	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Canisteo----------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Canisteo, depressional-------	3	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
L160B:							
Dickinson, loamy substratum---------	85	Not limited		Not limited		Not limited	
Farrar----------	8	Not limited		Not limited		Not limited	
Lowlein----------	7	Not limited		Not limited		Not limited	
L161C:							
Estherville---------	38	Not limited		Not limited		Somewhat limited	
						Droughty	0.12
						Slope	0.04
Pilot Grove---------	38	Not limited		Not limited		Somewhat limited	
						Droughty	0.17
						Slope	0.04
Well drained soils--	15	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Hawick----------	5	Not limited		Not limited		Very limited	
						Droughty	1.00
						Slope	0.04
Delft----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Terril----------	2	Not limited		Not limited		Not limited	
L162B:							
Clarion----------	45	Not limited		Not limited		Not limited	
Round Lake----------	30	Not limited		Not limited		Somewhat limited	
						Droughty	0.45

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
L162B:							
Estherville---------	8	Not limited		Not limited		Somewhat limited Droughty	0.12
Lowlein----------	5	Not limited		Not limited		Not limited	
Nicollet----------	5	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Swanlake----------	5	Not limited		Not limited		Not limited	
Webster----------	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L163A:							
Okoboji, depressional-------	92	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Canisteo----------	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Harpster----------	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Knoke, depressional	2	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
Prinsburg----------	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L170B:							
Estherville---------	50	Not limited		Not limited		Somewhat limited Droughty	0.12
Round Lake----------	45	Not limited		Not limited		Somewhat limited Droughty	0.45
Lowlein----------	3	Not limited		Not limited		Not limited	
Poorly drained soils	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
M-W:							
Water, miscellaneous	100	Not rated		Not rated		Not rated	
P1B:							
Annieville----------	80	Not limited		Not limited		Not limited	

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
P1B:							
McCreath----------	10	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Galva----------	5	Not limited		Not limited		Not limited	
Primghar----------	5	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
P2A:							
McCreath----------	80	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Gillett Grove-------	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Annieville----------	5	Not limited		Not limited		Not limited	
Primghar----------	5	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
P3A:							
Biscay, occasionally flooded----------	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Cylinder, occasionally flooded----------	10	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone Flooding	0.90 0.60
Talcot, occasionally flooded----------	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
P7A:							
Comfrey, occasionally flooded----------	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Colo, occasionally flooded----------	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
P7A:							
Havelock, occasionally flooded	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Flooding	0.60
Havelock, frequently flooded	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
Spillco, occasionally flooded	5	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
P9A:							
Gillett Grove	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
McCreath	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
Afton, frequently flooded	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
P12B:							
Everly	80	Not limited		Not limited		Not limited	
Sac	10	Not limited		Not limited		Not limited	
Ransom	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
Wilmonton	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
P12C2:							
Everly, moderately eroded	80	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Everly	10	Not limited		Not limited		Not limited	
Moneta	5	Not limited		Not limited		Somewhat limited	
						Slope	0.63
Wilmonton	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
P15B:							
Galva	80	Not limited		Not limited		Not limited	
Primghar	10	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Annieville	5	Not limited		Not limited		Not limited	
Sac	5	Not limited		Not limited		Not limited	
P20B:							
Judson	80	Not limited		Not limited		Not limited	
Primghar	10	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Galva	5	Not limited		Not limited		Not limited	
Whitewood, overwash	5	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
P21A:							
Marcus	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Whitewood, frequently flooded	10	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
Primghar	5	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Spicer	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
P27A:							
Primghar	80	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Galva	8	Not limited		Not limited		Not limited	
Marcus	8	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Judson	4	Not limited		Not limited		Not limited	

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
P28A:							
Ransom	80	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Rushmore	8	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Sac	8	Not limited		Not limited		Not limited	
Primghar	4	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
P29A:							
Rushmore	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Ransom	10	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Whitewood, frequently flooded	10	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
P30B:							
Sac	80	Not limited		Not limited		Not limited	
Annieville	10	Not limited		Not limited		Not limited	
Primghar	5	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
Ransom	5	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
P31A:							
Spicer	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Marcus	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Whitewood	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
P33A:							
Spillco, occasionally flooded	85	Not limited		Not limited		Somewhat limited Flooding	0.60
Spillco, frequently flooded	10	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
Comfrey, occasionally flooded	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
P36A:							
Talcot, occasionally flooded	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Biscay, occasionally flooded	10	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Cylinder, occasionally flooded	5	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone Flooding	0.90 0.60
P37D:							
Talmo	90	Somewhat limited Slope	0.68	Not limited		Very limited Droughty Slope Gravel content	1.00 1.00 0.14
Kanaranzi	5	Not limited		Not limited		Somewhat limited Slope	0.04
Thurman	5	Not limited		Not limited		Somewhat limited Droughty Slope	0.05 0.04
P38B:							
Thurman	90	Not limited		Not limited		Somewhat limited Droughty	0.09
Henkin	10	Not limited		Not limited		Not limited	

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
P38C:							
Thurman----------	90	Not limited		Not limited		Somewhat limited	
						Droughty	0.05
						Slope	0.04
Henkin----------	10	Not limited		Not limited		Not limited	
P43A:							
Wilmonton----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
Everly----------	5	Not limited		Not limited		Not limited	
Ransom----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
Rushmore----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
P45E:							
Moneta----------	85	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
Judson----------	10	Not limited		Not limited		Not limited	
Soils that are moderately deep to carbonates---------	5	Somewhat limited		Not limited		Very limited	
		Slope	0.50			Slope	1.00
P48A:							
Allendorf----------	85	Not limited		Not limited		Not limited	
Kanaranzi----------	5	Not limited		Not limited		Not limited	
Moderately well drained soils------	5	Not limited		Not limited		Not limited	
Sac----------	5	Not limited		Not limited		Not limited	
P48B:							
Allendorf----------	85	Not limited		Not limited		Not limited	
Kanaranzi----------	5	Not limited		Not limited		Not limited	
Moderately well drained soils------	5	Not limited		Not limited		Not limited	
Sac----------	5	Not limited		Not limited		Not limited	
P49A:							
Comfrey, frequently flooded----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
P49A:							
Comfrey, occasionally flooded	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Flooding	0.60
Havelock, frequently flooded	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
Spillco, occasionally flooded	5	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
P50B:							
Everly	60	Not limited		Not limited		Not limited	
Kanaranzi	25	Not limited		Not limited		Not limited	
Wilmonton	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
Ransom	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78
P51C2:							
Everly, moderately eroded	40	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Moneta, moderately eroded	20	Not limited		Not limited		Somewhat limited	
						Slope	0.63
Talmo, moderately eroded	20	Not limited		Not limited		Very limited	
						Droughty	1.00
						Gravel content	0.14
						Slope	0.04
Everly	10	Not limited		Not limited		Not limited	
Kanaranzi	5	Not limited		Not limited		Somewhat limited	
						Slope	0.04
Wilmonton	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.78

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
P52D2:							
Moneta, moderately eroded	40	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
Everly, moderately eroded	20	Not limited		Not limited		Somewhat limited Slope	0.96
Talmo, moderately eroded	20	Not limited		Not limited		Very limited Droughty Slope Gravel content	 1.00 1.00 0.14
Everly	10	Not limited		Not limited		Not limited	
Kanaranzi	5	Not limited		Not limited		Somewhat limited Slope	0.04
Wilmonton	5	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
P53C2:							
Everly, moderately eroded	55	Not limited		Not limited		Somewhat limited Slope	0.04
Moneta, moderately eroded	25	Not limited		Not limited		Somewhat limited Slope	0.63
Everly	10	Not limited		Not limited		Not limited	
Wilmonton	10	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
P54D2:							
Moneta, moderately eroded	45	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
Everly, moderately eroded	40	Not limited		Not limited		Somewhat limited Slope	0.96
Everly	10	Not limited		Not limited		Not limited	
Wilmonton	5	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
P55A:							
Kato	90	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
P55A:							
Somewhat poorly drained soils------	10	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.78	Somewhat limited Depth to saturated zone	0.90
P56A:							
Kanaranzi----------	80	Not limited		Not limited		Not limited	
Allendorf----------	10	Not limited		Not limited		Not limited	
Moderately well drained soils------	10	Not limited		Not limited		Not limited	
P56B:							
Kanaranzi----------	80	Not limited		Not limited		Not limited	
Allendorf----------	14	Not limited		Not limited		Not limited	
Talmo----------	6	Not limited		Not limited		Very limited Droughty Gravel content	 1.00 0.14
U3B:							
Udorthents (cut and fill land)---------	100	Not rated		Not rated		Not rated	
U7:							
Udorthents, shallow, sanitary landfill--	100	Not rated		Not rated		Not rated	
U15A:							
Havelock, frequently flooded----------	80	Very limited Depth to saturated zone Flooding	 1.00 0.40	Very limited Depth to saturated zone Flooding	 1.00 0.40	Very limited Flooding Depth to saturated zone	 1.00 1.00
Havelock, occasionally flooded----------	10	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone Flooding	 1.00 0.60
Calco, frequently flooded----------	5	Very limited Depth to saturated zone Flooding	 1.00 0.40	Very limited Depth to saturated zone Flooding	 1.00 0.40	Very limited Flooding Depth to saturated zone	 1.00 1.00
Spillco, frequently flooded----------	5	Somewhat limited Flooding	 0.40	Somewhat limited Flooding	 0.40	Very limited Flooding	 1.00

Table 11b.--Recreational Development--Continued

Map symbol and component name	Pct. of map unit	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
U24A:							
Havelock, occasionally flooded	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Havelock, frequently flooded	10	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
Spillco, occasionally flooded	5	Not limited		Not limited		Somewhat limited Flooding	 0.60
Comfrey, occasionally flooded	3	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Calco, occasionally flooded	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
W:							
Water	100	Not rated		Not rated		Not rated	

Table 12.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
GP:											
Pits, gravel	80	---	---	---	---	---	---	---	---	---	---
Udipsamments	20	---	---	---	---	---	---	---	---	---	---
L5A:											
Delft, overwash	45	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Delft	35	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Delft, frequently flooded	7	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Terril	6	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Glencoe, depressional	4	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Poorly drained soils	3	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
L6A:											
Biscay	85	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Biscay, depressional	8	Poor	Fair	Good	Poor	Poor	Good	Good	Good	Poor	Good
Mayer	5	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Cylinder	2	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
L78A:											
Canisteo	65	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Crippin	10	Good	Good	Good	Good	Fair	Fair	Poor	Good	Good	Poor
Glencoe, depressional	10	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Canisteo, depressional	5	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Poor	Good
Harps	5	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good
Webster	5	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
L79B:											
Clarion	70	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Clarion, moderately eroded	15	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Nicollet	8	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Ocheyedan	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Webster	2	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
L83A:											
Webster	65	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
L83A:											
Glencoe, depressional	14	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Canisteo	8	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Nicollet	8	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Poorly drained soils	5	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
L85A:											
Nicollet	85	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Clarion	10	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Webster	5	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
L88A:											
Lura, depressional	85	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
Brownton	7	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Depressional soils that have an organic surface layer	5	Good	Poor	Poor	Poor	Poor	Good	Good	Fair	Poor	Good
Prinsburg	3	Good	Good	Fair	Fair	Poor	Good	Good	Good	Fair	Good
L96B:											
Estherville	55	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Hawick	35	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Biscay	2	Good	Good	Good	Good	Fair	Good	Good	Good	Fair	Good
Tomall	8	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L97C:											
Hawick	60	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Estherville	30	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Tomall	10	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L98A:											
Crippin	50	Good	Good	Good	Good	Fair	Fair	Poor	Good	Good	Poor
Nicollet	40	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Canisteo	5	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Clarion	5	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
L102C2:											
Omsrud, moderately eroded	45	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Storden, moderately eroded	24	Fair	Good	Good	Fair	Poor	Very poor	Very poor	Fair	Fair	Very poor
Omsrud	14	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Terril	10	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Delft	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Crooksford	2	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
L102D2:											
Omsrud, moderately eroded	45	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Storden, moderately eroded	20	Fair	Good	Good	Fair	Poor	Very poor	Very poor	Fair	Fair	Very poor
Omsrud	14	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Ridgeton	9	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Delft	6	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Terril	6	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
L107A:											
Canisteo	50	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Glencoe, depressional	35	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Harps	10	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good
Canisteo, depressional	3	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Poor	Good
Crippin	2	Good	Good	Good	Good	Fair	Fair	Poor	Good	Good	Poor
L111A:											
Nicollet	80	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Okabena	14	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Clarion	4	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Webster	2	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
L112A:											
Webster	80	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
Chetomba	10	Good	Good	Fair	Fair	Poor	Good	Good	Good	Fair	Good
Glencoe, depressional	6	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Canisteo	2	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Nicollet	2	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
L126A:											
Coland, occasionally flooded	80	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Minneopa, occasionally flooded	10	Fair	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor
Havelock, occasionally flooded	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Spillville, occasionally flooded	5	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
L127A:											
Coland, frequently flooded	80	Poor	Fair	Fair	Poor	Poor	Good	Good	Poor	Poor	Good
Minneopa, occasionally flooded	10	Fair	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor
Havelock, frequently flooded	5	Poor	Fair	Fair	Poor	Poor	Good	Good	Poor	Fair	Good
Spillville, occasionally flooded	5	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
L129B:											
Terril	90	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Clarion	5	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Delft	5	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
L130A:											
Okoboji mucky silty clay loam, depressional	75	Fair	Fair	Fair	Fair	Very poor	Good	Good	Fair	Fair	Good
Okoboji silty clay loam, depressional	15	Fair	Fair	Fair	Fair	Very poor	Good	Good	Fair	Fair	Good
Brownton	5	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Spicer	5	Good	Good	Fair	Fair	Poor	Good	Good	Good	Fair	Good

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
L133A:											
Waldorf	80	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Marna	9	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Chetomba	5	Good	Good	Fair	Fair	Poor	Good	Good	Good	Fair	Good
Brownton	2	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Lura, depressional	2	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
Barbert	1	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Fair
Ocheda	1	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
L134B:											
Clarion	56	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Crooksford	15	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Clarion, moderately eroded	14	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Nicollet	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Swanlake	5	Good	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
Terril	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
L135A:											
Okabena	85	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Kingston	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Nicollet	4	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Chetomba	2	Good	Good	Fair	Fair	Poor	Good	Good	Good	Fair	Good
Ocheda	2	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Waldorf	2	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
L136A:											
Crooksford	80	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Nicollet	8	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Clarion	7	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Okabena	3	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Webster	2	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
L137A:											
Cylinder	90	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Biscay	4	Good	Good	Good	Good	Fair	Good	Good	Good	Fair	Good
Wadena	4	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Linder	2	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L138B:											
Estherville	85	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Wadena	7	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Hawick	5	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Cylinder	3	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
L139A:											
Wadena	85	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Estherville	5	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Kanaranzi	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Cylinder	3	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Dickinson	2	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
L139B:											
Wadena	85	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Estherville	7	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Cylinder	3	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Dickinson	3	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Biscay	2	Good	Good	Good	Good	Fair	Good	Good	Good	Fair	Good
L140A:											
Ocheda	85	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Guckeen	5	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Collinwood	3	Good	Good	Good	Good	Good	Poor	Poor	Fair	Good	Poor

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
L140A:											
Nicollet	3	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Clarion	2	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Marna	2	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
L141A:											
Spillville, occasionally flooded	86	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Coland, occasionally flooded	8	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Hanlon, occasionally flooded	4	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Havelock, occasionally flooded	2	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
L144A:											
Chetomba	75	Good	Good	Fair	Fair	Poor	Good	Good	Good	Fair	Good
Waldorf	13	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Webster	5	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
Okoboji, depressional	3	Fair	Fair	Fair	Fair	Very poor	Good	Good	Fair	Fair	Good
Prinsburg	3	Good	Good	Fair	Fair	Poor	Good	Good	Good	Fair	Good
Okabena	1	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
L145A:											
Canisteo	80	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Glencoe, depressional	10	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Webster	5	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
Prinsburg	4	Good	Good	Fair	Fair	Poor	Good	Good	Good	Fair	Good
Crippin	1	Good	Good	Good	Good	Fair	Fair	Poor	Good	Good	Poor
L146A:											
Glencoe, depressional	80	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Canisteo	10	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Harps	10	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good
L150A:											
Prinsburg	75	Good	Good	Fair	Fair	Poor	Good	Good	Good	Fair	Good
Chetomba	14	Good	Good	Fair	Fair	Poor	Good	Good	Good	Fair	Good
Webster	4	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
L150A:											
Canisteo	3	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Okabena	2	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Okoboji, depressional	2	Fair	Fair	Fair	Fair	Very poor	Good	Good	Fair	Fair	Good
L151A:											
Glencoe, ponded	80	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Okoboji, ponded	14	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Klossner, ponded	6	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
L152B:											
Lowlein	60	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Round Lake	20	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Nicollet	12	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Farrar	6	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Webster	2	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
L153A:											
Essexville	85	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Fair	Poor	Fair
Canisteo	5	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Glencoe, depressional	4	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Belleville	3	Fair	Fair	Good	Poor	Poor	Fair	Fair	Fair	Poor	Fair
Very poorly drained soils in depressions	2	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor
Somewhat poorly drained soils	1	Fair	Good	Good	Fair	Good	Very poor	Very poor	Fair	Good	Very poor
L154E:											
Belview	60	Fair	Good	Good	Fair	Poor	Very poor	Very poor	Fair	Fair	Very poor
Ridgeton	22	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Omsrud	14	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Delft	2	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Terril	2	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
L155A:											
Okoboji, ponded	85	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Glencoe, ponded	10	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Blue Earth, ponded	3	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Klossner, ponded	2	Very poor	Very poor	Good	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
L156C2:											
Omsrud, moderately eroded	44	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Storden, moderately eroded	24	Fair	Good	Good	Fair	Poor	Very poor	Very poor	Fair	Fair	Very poor
Pilot Grove	20	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Hawick	8	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Delft	2	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Terril	2	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
L156D2:											
Omsrud, moderately eroded	50	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Storden, moderately eroded	25	Fair	Good	Good	Fair	Poor	Very poor	Very poor	Fair	Fair	Very poor
Pilot Grove	15	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Hawick	4	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Ridgeton	2	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Delft	2	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Terril	2	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
L157A:											
Lowlein	78	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Nicollet	14	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Round Lake	4	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
L157A:											
Webster	2	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
Farrar	2	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
L158B:											
Round Lake	80	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Lowlein	13	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Ocheyedan	3	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Estherville	2	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Webster	2	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
L159A:											
Knoke, depressional	85	Fair	Fair	Fair	Poor	Very poor	Good	Good	Fair	Poor	Good
Okoboji, depressional	5	Fair	Fair	Fair	Fair	Very poor	Good	Good	Fair	Fair	Good
Essexville	4	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Fair	Poor	Fair
Canisteo	3	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Canisteo, depressional	3	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Poor	Good
L160B:											
Dickinson, loamy substratum	85	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Farrar	8	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Lowlein	7	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
L161C:											
Estherville	38	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Pilot Grove	38	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Well drained soils	15	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Hawick	5	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Delft	2	Good	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good
Terril	2	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
L162B:											
Clarion	45	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Round Lake	30	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Estherville	8	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Lowlein	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Nicollet	5	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Swanlake	5	Good	Good	Good	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
Webster	2	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
L163A:											
Okoboji, depressional	92	Fair	Fair	Fair	Fair	Very poor	Good	Good	Fair	Fair	Good
Canisteo	2	Good	Good	Fair	Fair	Fair	Good	Good	Good	Fair	Good
Harpster	2	Fair	Fair	Good	Fair	Fair	Good	Fair	Fair	Fair	Fair
Knoke, depressional	2	Fair	Fair	Fair	Poor	Very poor	Good	Good	Fair	Poor	Good
Prinsburg	2	Good	Good	Fair	Fair	Poor	Good	Good	Good	Fair	Good
L170B:											
Estherville	50	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Round Lake	45	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Lowlein	3	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Poorly drained soils	2	Good	Good	Good	Fair	Poor	Good	Good	Good	Fair	Good
M-W.											
Water, miscellaneous											
P1B:											
Annieville	80	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
McCreath	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Galva	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Primghar	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
P2A:											
McCreath	80	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Gillett Grove	10	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Annieville	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Primghar	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
P3A:											
Biscay, occasionally flooded	85	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Cylinder, occasionally flooded	10	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
Talcot, occasionally flooded	5	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
P7A:											
Comfrey, occasionally flooded	80	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Colo, occasionally flooded	5	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Havelock, occasionally flooded	5	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Havelock, frequently flooded	5	Very poor	Fair	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Spillco, occasionally flooded	5	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
P9A:											
Gillett Grove	85	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
McCreath	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Afton, frequently flooded	5	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
P12B:											
Everly	80	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Sac	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Ransom	5	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
P12B:											
Wilmonton	5	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
P12C2:											
Everly, moderately eroded	80	Fair	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Everly	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Moneta	5	Very poor	Very poor	Good	Poor	Poor	Very poor	Very poor	Very poor	Poor	Very poor
Wilmonton	5	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
P15B:											
Galva	80	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Primghar	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Annieville	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Sac	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
P20B:											
Judson	80	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Primghar	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Galva	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Whitewood, overwash	5	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
P21A:											
Marcus	80	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Whitewood, frequently flooded	10	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Primghar	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Spicer	5	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
P27A:											
Primghar	80	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Galva	8	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
P27A:											
Marcus	8	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Judson	4	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
P28A:											
Ransom	80	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
Rushmore	8	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Sac	8	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Primghar	4	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
P29A:											
Rushmore	80	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Ransom	10	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
Whitewood, frequently flooded	10	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
P30B:											
Sac	80	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Annieville	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Primghar	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Ransom	5	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
P31A:											
Spicer	85	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Marcus	10	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Whitewood	5	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
P33A:											
Spillco, occasionally flooded	85	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
Spillco, frequently flooded	10	Very poor	Fair	Good	Poor	Poor	Fair	Very poor	Poor	Poor	Poor
Comfrey, occasionally flooded	5	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
P36A:											
Talcot, occasionally flooded	85	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Biscay, occasionally flooded	10	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Cylinder, occasionally flooded	5	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
P37D:											
Talmo	90	Very poor	Very poor	Good	Poor	Poor	Very poor	Very poor	Very poor	Poor	Very poor
Kanaranzi	5	Fair	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Thurman	5	Poor	Good	Good	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor
P38B:											
Thurman	90	Fair	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Henkin	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
P38C:											
Thurman	90	Poor	Good	Good	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor
Henkin	10	Fair	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
P43A:											
Wilmonton	85	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
Everly	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Ransom	5	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
Rushmore	5	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
P45E:											
Moneta	85	Very poor	Very poor	Good	Poor	Poor	Very poor	Very poor	Very poor	Poor	Very poor
Judson	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Soils that are moderately deep to carbonates	5	Very poor	Very poor	Good	Poor	Poor	Very poor	Very poor	Very poor	Poor	Very poor

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
P48A:											
Allendorf	85	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Kanaranzi	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Moderately well drained soils	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Sac	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
P48B:											
Allendorf	85	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Kanaranzi	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Moderately well drained soils	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Sac	5	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
P49A:											
Comfrey, frequently flooded	85	Very poor	Fair	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Comfrey, occasionally flooded	5	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Havelock, frequently flooded	5	Very poor	Fair	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Spillco, occasionally flooded	5	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
P50B:											
Everly	60	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Kanaranzi	25	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Wilmonton	10	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
Ransom	5	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
P51C2:											
Everly, moderately eroded	40	Fair	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
P51C2:											
Moneta, moderately eroded	20	Very poor	Very poor	Good	Poor	Poor	Very poor	Very poor	Very poor	Poor	Very poor
Talmo, moderately eroded	20	Very poor	Very poor	Good	Poor	Poor	Very poor	Very poor	Very poor	Poor	Very poor
Everly	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Kanaranzi	5	Fair	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Wilmonton	5	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
P52D2:											
Moneta, moderately eroded	40	Very poor	Very poor	Good	Poor	Poor	Very poor	Very poor	Very poor	Poor	Very poor
Everly, moderately eroded	20	Fair	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Talmo, moderately eroded	20	Very poor	Very poor	Good	Poor	Poor	Very poor	Very poor	Very poor	Poor	Very poor
Everly	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Kanaranzi	5	Fair	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Wilmonton	5	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
P53C2:											
Everly, moderately eroded	55	Fair	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Moneta, moderately eroded	25	Very poor	Very poor	Good	Poor	Poor	Very poor	Very poor	Very poor	Poor	Very poor
Everly	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Wilmonton	10	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
P54D2:											
Moneta, moderately eroded	45	Very poor	Very poor	Good	Poor	Poor	Very poor	Very poor	Very poor	Poor	Very poor

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
P54D2:											
Everly, moderately eroded	40	Fair	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Everly	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Wilmonton	5	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
P55A:											
Kato	90	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Somewhat poorly drained soils	10	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
P56A:											
Kanaranzi	80	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Allendorf	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Moderately well drained soils	10	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
P56B:											
Kanaranzi	80	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Allendorf	14	Good	Good	Good	Poor	Poor	Very poor	Very poor	Good	Poor	Very poor
Talmo	6	Poor	Good	Good	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor
U3B:											
Udorthents (cut and fill land)	100	---	---	---	---	---	---	---	---	---	---
U7:											
Udorthents, shallow, sanitary landfill	100	---	---	---	---	---	---	---	---	---	---
U15A:											
Havelock, frequently flooded	80	Very poor	Fair	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Havelock, occasionally flooded	10	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Calco, frequently flooded	5	Very poor	Fair	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Spillco, frequently flooded	5	Very poor	Fair	Good	Poor	Poor	Fair	Very poor	Poor	Poor	Poor

Table 12.--Wildlife Habitat--Continued

Map symbol and component name	Pct. of map unit	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
U24A:											
Havelock, occasionally flooded	80	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Havelock, frequently flooded	10	Very poor	Fair	Good	Poor	Poor	Good	Good	Poor	Poor	Good
Spillco, occasionally flooded	5	Good	Good	Good	Poor	Poor	Fair	Very poor	Good	Poor	Poor
Comfrey, occasionally flooded	3	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
Calco, occasionally flooded	2	Good	Good	Good	Poor	Poor	Good	Good	Good	Poor	Good
W. Water											

Table 13a.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	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
GP:							
Pits, gravel--------	80	Not rated		Not rated		Not rated	
Udipsamments--------	20	Not rated		Not rated		Not rated	
L5A:							
Delft, overwash-----	45	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Delft----------	35	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
Delft, frequently flooded----------	7	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	0.01			Shrink-swell	0.01
Terril----------	6	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
Glencoe, depressional-------	4	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
Poorly drained soils	3	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
L6A:							
Biscay----------	85	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
Biscay, depressional	8	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

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L6A:							
Mayer	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Cylinder	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L78A:							
Canisteo	65	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Crippin	10	Somewhat limited Depth to saturated zone	0.99	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.99
Glencoe, depressional	10	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
Canisteo, depressional	5	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
Harps	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Webster	5	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L79B:							
Clarion	70	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Clarion, moderately eroded	15	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Nicollet	8	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50
Ocheyedan	5	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L79B:							
Webster----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L83A:							
Webster----------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Glencoe, depressional-------	14	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
Canisteo----------	8	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nicollet----------	8	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50			Shrink-swell	0.50
Poorly drained soils	5	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
L85A:							
Nicollet----------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50			Shrink-swell	0.50
Clarion----------	10	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
Webster----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L88A:							
Lura, depressional--	85	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
Brownton----------	7	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

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L88A:							
Depressional soils that have an organic surface layer	5	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	Shrink-swell	1.00	Ponding	1.00
		Shrink-swell	0.50	Ponding	1.00	Shrink-swell	0.50
Prinsburg	3	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
L96B:							
Estherville	55	Not limited		Not limited		Not limited	
Hawick	35	Not limited		Not limited		Not limited	
Biscay	2	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
Tomall	8	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
L97C:							
Hawick	60	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Estherville	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Tomall	10	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
L98A:							
Crippin	50	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
Nicollet	40	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50			Shrink-swell	0.50
Canisteo	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Clarion	5	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L102C2:							
Omsrud, moderately eroded	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Storden, moderately eroded	24	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Omsrud	14	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Terril	10	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
Delft	5	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
Crooksford	2	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
		Depth to saturated zone	0.01	Shrink-swell	0.50	Depth to saturated zone	0.01
L102D2:							
Omsrud, moderately eroded	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Storden, moderately eroded	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Omsrud	14	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Ridgeton	9	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Delft	6	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
Terril	6	Not limited		Somewhat limited		Somewhat limited	
				Depth to saturated zone	0.78	Slope	0.12
L107A:							
Canisteo	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L107A:							
Glencoe, depressional-------	35	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
Harps----------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Canisteo, depressional-------	3	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
Crippin----------	2	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
L111A:							
Nicollet----------	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50			Shrink-swell	0.50
Okabena----------	14	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50			Shrink-swell	0.50
Clarion----------	4	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
Webster----------	2	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
L112A:							
Webster----------	80	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
Chetomba----------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50			Shrink-swell	0.50

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L112A:							
Glencoe, depressional-------	6	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
Canisteo----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nicollet----------	2	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50			Shrink-swell	0.50
L126A:							
Coland, occasionally flooded----------	80	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
Minneopa, occasionally flooded----------	10	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.01	Depth to saturated zone	0.99	Depth to saturated zone	0.01
Havelock, occasionally flooded----------	5	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	1.00			Shrink-swell	1.00
Spillville, occasionally flooded----------	5	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
L127A:							
Coland, frequently flooded----------	80	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 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L127A:							
Minneopa, occasionally flooded	10	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.01	Depth to saturated zone	0.99	Depth to saturated zone	0.01
Havelock, frequently flooded	5	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	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Spillville, occasionally flooded	5	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
L129B:							
Terril	90	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
Clarion	5	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
Delft	5	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
L130A:							
Okoboji mucky silty clay loam, depressional	75	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
Okoboji silty clay loam, depressional	15	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
Brownton	5	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

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L130A:							
Spicer	5	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
L133A:							
Waldorf	80	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
Marna	9	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
Chetomba	5	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
Brownton	2	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
Lura, depressional	2	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
Barbert	1	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
Ocheda	1	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.99	Shrink-swell	1.00	Depth to saturated zone	0.99
L134B:							
Clarion	56	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
Crooksford	15	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
		Depth to saturated zone	0.01	Shrink-swell	0.50	Depth to saturated zone	0.01
Clarion, moderately eroded	14	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L134B:							
Nicollet----------	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50			Shrink-swell	0.50
Swanlake----------	5	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
Terril----------	5	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
L135A:							
Okabena----------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50			Shrink-swell	0.50
Kingston----------	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
Nicollet----------	4	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50			Shrink-swell	0.50
Chetomba----------	2	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
Ocheda----------	2	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.99	Shrink-swell	1.00	Depth to saturated zone	0.99
Waldorf----------	2	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
L136A:							
Crooksford----------	80	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
		Depth to saturated zone	0.01	Shrink-swell	0.50	Depth to saturated zone	0.01
Nicollet----------	8	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50			Shrink-swell	0.50
Clarion----------	7	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L136A:							
Okabena	3	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50			Shrink-swell	0.50
Webster	2	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
L137A:							
Cylinder	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Biscay	4	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
Wadena	4	Not limited		Not limited		Not limited	
Linder	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L138B:							
Estherville	85	Not limited		Not limited		Not limited	
Wadena	7	Not limited		Not limited		Not limited	
Hawick	5	Not limited		Not limited		Not limited	
Cylinder	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L139A:							
Wadena	85	Not limited		Not limited		Not limited	
Estherville	5	Not limited		Not limited		Not limited	
Kanaranzi	5	Not limited		Not limited		Not limited	
Cylinder	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Dickinson	2	Not limited		Not limited		Not limited	
L139B:							
Wadena	85	Not limited		Not limited		Not limited	
Estherville	7	Not limited		Not limited		Not limited	

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L139B:							
Cylinder	3	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Dickinson	3	Not limited		Not limited		Not limited	
Biscay	2	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
L140A:							
Ocheda	85	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99
Guckeen	5	Somewhat limited Depth to saturated zone	0.99	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.99
Collinwood	3	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99
Nicollet	3	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50
Clarion	2	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Marna	2	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
L141A:							
Spillville, occasionally flooded	86	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.99 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.99 0.50
Coland, occasionally flooded	8	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L141A:							
Hanlon, occasionally flooded	4	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.01	Depth to saturated zone	0.99	Depth to saturated zone	0.01
Havelock, occasionally flooded	2	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	1.00			Shrink-swell	1.00
L144A:							
Chetomba	75	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
Waldorf	13	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
Webster	5	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
Okoboji, depressional	3	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
Prinsburg	3	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
Okabena	1	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50			Shrink-swell	0.50
L145A:							
Canisteo	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Glencoe, depressional	10	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

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L145A:							
Webster	5	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
Prinsburg	4	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
Crippin	1	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
L146A:							
Glencoe, depressional	80	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
Canisteo	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Harps	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L150A:							
Prinsburg	75	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
Chetomba	14	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
Webster	4	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
Canisteo	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Okabena	2	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50			Shrink-swell	0.50

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L150A:							
Okoboji, depressional-------	2	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
L151A:							
Glencoe, ponded-----	80	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
		Content of organic matter	1.00	Shrink-swell	0.50	Content of organic matter	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
Okoboji, ponded-----	14	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Klossner, ponded----	6	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	Shrink-swell	0.50	Content of organic matter	1.00
L152B:							
Lowlein----------	60	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.01	Depth to saturated zone	0.99	Depth to saturated zone	0.01
Round Lake----------	20	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
Nicollet----------	12	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50			Shrink-swell	0.50
Farrar----------	6	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
Webster----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L153A:							
Essexville----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L153A:							
Canisteo----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Glencoe, depressional-------	4	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
Belleville----------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Very poorly drained soils in depressions--------	2	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
Somewhat poorly drained soils------	1	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
L154E:							
Belview----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Ridgeton----------	22	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Omsrud----------	14	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Delft----------	2	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
Terril----------	2	Not limited		Somewhat limited		Somewhat limited	
				Depth to saturated zone	0.78	Slope	0.12
L155A:							
Okoboji, ponded-----	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L155A:							
Glencoe, ponded-----	10	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
		Content of organic matter	1.00	Shrink-swell	0.50	Content of organic matter	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
Blue Earth, ponded--	3	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
		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
Klossner, ponded----	2	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	Shrink-swell	0.50	Content of organic matter	1.00
L156C2:							
Omsrud, moderately eroded----------	44	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Storden, moderately eroded----------	24	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Pilot Grove---------	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Hawick----------	8	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Delft----------	2	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
Terril----------	2	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
L156D2:							
Omsrud, moderately eroded----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Storden, moderately eroded----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L156D2:							
Pilot Grove---------	15	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hawick----------	4	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Ridgeton----------	2	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
Delft----------	2	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Terril----------	2	Not limited		Somewhat limited Depth to saturated zone	0.78	Somewhat limited Slope	0.12
L157A:							
Lowlein----------	78	Somewhat limited Depth to saturated zone	0.01	Very limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.01
Nicollet----------	14	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50
Round Lake----------	4	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Webster----------	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Farrar----------	2	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
L158B:							
Round Lake----------	80	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Lowlein----------	13	Somewhat limited Depth to saturated zone	0.01	Very limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.01
Ocheyedan----------	3	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Estherville---------	2	Not limited		Not limited		Not limited	
Webster----------	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L159A:							
Knoke, depressional	85	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
Okoboji, depressional-------	5	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
Essexville----------	4	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Canisteo----------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Canisteo, depressional-------	3	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
L160B:							
Dickinson, loamy substratum---------	85	Not limited		Not limited		Not limited	
Farrar----------	8	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.78		
Lowlein----------	7	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.01	Depth to saturated zone	0.99	Depth to saturated zone	0.01
L161C:							
Estherville---------	38	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Pilot Grove---------	38	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Well drained soils--	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Hawick----------	5	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Delft----------	2	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 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L161C:							
Terril	2	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
L162B:							
Clarion	45	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Round Lake	30	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Estherville	8	Not limited		Not limited		Not limited	
Lowlein	5	Somewhat limited Depth to saturated zone	0.01	Very limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.01
Nicollet	5	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50
Swanlake	5	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Webster	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
L163A:							
Okoboji, depressional	92	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00
Canisteo	2	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Harpster	2	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Knoke, depressional	2	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00
Prinsburg	2	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L170B:							
Estherville	50	Not limited		Not limited		Not limited	
Round Lake	45	Not limited		Somewhat limited Depth to saturated zone	0.78	Not limited	
Lowlein	3	Somewhat limited Depth to saturated zone	0.01	Very limited Depth to saturated zone	0.99	Somewhat limited Depth to saturated zone	0.01
Poorly drained soils	2	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
M-W:							
Water, miscellaneous	100	Not rated		Not rated		Not rated	
P1B:							
Annieville	80	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.61 0.50	Somewhat limited Shrink-swell	0.50
McCreath	10	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.01	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50
Galva	5	Somewhat limited Shrink-swell	0.27	Somewhat limited Shrink-swell	0.27	Somewhat limited Shrink-swell	0.27
Primghar	5	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50
P2A:							
McCreath	80	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.01	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50
Gillett Grove	10	Very limited Depth to saturated zone Shrink-swell	1.00 0.78	Very limited Depth to saturated zone Shrink-swell	1.00 0.78	Very limited Depth to saturated zone Shrink-swell	1.00 0.78
Annieville	5	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.61 0.50	Somewhat limited Shrink-swell	0.50
Primghar	5	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P3A:							
Biscay, occasionally flooded----------	85	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
Cylinder, occasionally flooded----------	10	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
Talcot, occasionally flooded----------	5	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	0.78			Shrink-swell	0.78
P7A:							
Comfrey, occasionally flooded----------	80	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	0.04	Shrink-swell	0.50
Colo, occasionally flooded----------	5	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
Havelock, occasionally flooded----------	5	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	0.04	Shrink-swell	0.50
Havelock, frequently flooded----------	5	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	0.04	Shrink-swell	0.50
Spillco, occasionally flooded----------	5	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.01	Depth to saturated zone	0.99	Depth to saturated zone	0.01

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P9A:							
Gillett Grove-------	85	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	0.78	Shrink-swell	0.78	Shrink-swell	0.78
McCreath----------	10	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.01	Shrink-swell	0.50
Afton, frequently flooded----------	5	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	0.32	Shrink-swell	0.50
P12B:							
Everly----------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.01	Depth to saturated zone	0.61	Shrink-swell	0.01
				Shrink-swell	0.01		
Sac----------	10	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
		Depth to saturated zone	0.01	Shrink-swell	0.01	Depth to saturated zone	0.01
Ransom----------	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.01	Shrink-swell	0.50
Wilmonton----------	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01
P12C2:							
Everly, moderately eroded----------	80	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Depth to saturated zone	0.61	Slope	1.00
		Shrink-swell	0.01	Slope	0.04	Shrink-swell	0.01
				Shrink-swell	0.01		
Everly----------	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.01	Depth to saturated zone	0.61	Shrink-swell	0.01
				Shrink-swell	0.01		
Moneta----------	5	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P12C2:							
Wilmonton----------	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01
P15B:							
Galva----------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.27	Shrink-swell	0.27	Shrink-swell	0.27
Primghar----------	10	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Annieville----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.61	Shrink-swell	0.50
				Shrink-swell	0.50		
Sac----------	5	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
		Depth to saturated zone	0.01	Shrink-swell	0.01	Depth to saturated zone	0.01
P20B:							
Judson----------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Primghar----------	10	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Galva----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.27	Shrink-swell	0.27	Shrink-swell	0.27
Whitewood, overwash	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
P21A:							
Marcus----------	80	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	0.78	Shrink-swell	0.78	Shrink-swell	0.78
Whitewood, frequently flooded	10	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	0.32	Shrink-swell	0.50
Primghar----------	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P21A:							
Spicer	5	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	0.04	Shrink-swell	0.04	Shrink-swell	0.04
P27A:							
Primghar	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Galva	8	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.27	Shrink-swell	0.27	Shrink-swell	0.27
Marcus	8	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	0.78	Shrink-swell	0.78	Shrink-swell	0.78
Judson	4	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.64		
P28A:							
Ransom	80	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.01	Shrink-swell	0.50
Rushmore	8	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	0.01	Shrink-swell	0.50
Sac	8	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
		Depth to saturated zone	0.01	Shrink-swell	0.01	Depth to saturated zone	0.01
Primghar	4	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
P29A:							
Rushmore	80	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	0.01	Shrink-swell	0.50
Ransom	10	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.01	Shrink-swell	0.50

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P29A:							
Whitewood, frequently flooded	10	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	0.32	Shrink-swell	0.50
P30B:							
Sac	80	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
		Depth to saturated zone	0.01	Shrink-swell	0.01	Depth to saturated zone	0.01
Annieville	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.61	Shrink-swell	0.50
				Shrink-swell	0.50		
Primghar	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Ransom	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.01	Shrink-swell	0.50
P31A:							
Spicer	85	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	0.04	Shrink-swell	0.04	Shrink-swell	0.04
Marcus	10	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	0.78	Shrink-swell	0.78	Shrink-swell	0.78
Whitewood	5	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	0.32	Shrink-swell	0.50
P33A:							
Spillco, occasionally flooded	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.01	Depth to saturated zone	0.99	Depth to saturated zone	0.01
Spillco, frequently flooded	10	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.01	Depth to saturated zone	0.99	Depth to saturated zone	0.01

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P33A:							
Comfrey, occasionally flooded	5	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	0.04	Shrink-swell	0.50
P36A:							
Talcot, occasionally flooded	85	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	0.78			Shrink-swell	0.78
Biscay, occasionally flooded	10	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
Cylinder, occasionally flooded	5	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
P37D:							
Talmo	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Kanaranzi	5	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Thurman	5	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
P38B:							
Thurman	90	Not limited		Not limited		Not limited	
Henkin	10	Not limited		Not limited		Not limited	
P38C:							
Thurman	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Henkin	10	Not limited		Not limited		Very limited	
						Slope	1.00
P43A:							
Wilmonton	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P43A:							
Everly	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.01	Depth to saturated zone	0.61	Shrink-swell	0.01
				Shrink-swell	0.01		
Ransom	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.01	Shrink-swell	0.50
Rushmore	5	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	0.01	Shrink-swell	0.50
P45E:							
Moneta	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01
Judson	10	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Soils that are moderately deep to carbonates	5	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01
P48A:							
Allendorf	85	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.27			Shrink-swell	0.27
Kanaranzi	5	Not limited		Not limited		Not limited	
Moderately well drained soils	5	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.27	Depth to saturated zone	0.99	Shrink-swell	0.27
		Depth to saturated zone	0.01			Depth to saturated zone	0.01
Sac	5	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
		Depth to saturated zone	0.01	Shrink-swell	0.01	Depth to saturated zone	0.01
P48B:							
Allendorf	85	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.27			Shrink-swell	0.27
Kanaranzi	5	Not limited		Not limited		Not limited	
Moderately well drained soils	5	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.27	Depth to saturated zone	0.99	Shrink-swell	0.27
		Depth to saturated zone	0.01			Depth to saturated zone	0.01

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P48B:							
Sac	5	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
		Depth to saturated zone	0.01	Shrink-swell	0.01	Depth to saturated zone	0.01
P49A:							
Comfrey, frequently flooded	85	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
Comfrey, occasionally flooded	5	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	0.04	Shrink-swell	0.50
Havelock, frequently flooded	5	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	0.04	Shrink-swell	0.50
Spillco, occasionally flooded	5	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.01	Depth to saturated zone	0.99	Depth to saturated zone	0.01
P50B:							
Everly	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.01	Depth to saturated zone	0.61	Shrink-swell	0.01
				Shrink-swell	0.01		
Kanaranzi	25	Not limited		Not limited		Not limited	
Wilmonton	10	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01
Ransom	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.50	Shrink-swell	0.01	Shrink-swell	0.50

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P51C2:							
Everly, moderately eroded----------	40	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.32	Depth to saturated zone	0.61	Slope	1.00
		Slope	0.04	Slope	0.04	Shrink-swell	0.32
				Shrink-swell	0.01		
Moneta, moderately eroded----------	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01
Talmo, moderately eroded----------	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Everly----------	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.01	Depth to saturated zone	0.61	Shrink-swell	0.01
				Shrink-swell	0.01		
Kanaranzi----------	5	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Wilmonton----------	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01
P52D2:							
Moneta, moderately eroded----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01
Everly, moderately eroded----------	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.96	Slope	0.96	Slope	1.00
		Shrink-swell	0.01	Depth to saturated zone	0.61	Shrink-swell	0.01
				Shrink-swell	0.01		
Talmo, moderately eroded----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Everly----------	10	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.01	Depth to saturated zone	0.99	Shrink-swell	0.01
		Depth to saturated zone	0.01	Shrink-swell	0.01	Depth to saturated zone	0.01
Kanaranzi----------	5	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Slope	0.04	Slope	1.00
Wilmonton----------	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P53C2:							
Everly, moderately eroded	55	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Depth to saturated zone	0.61	Slope	1.00
		Shrink-swell	0.01	Slope	0.04	Shrink-swell	0.01
				Shrink-swell	0.01		
Moneta, moderately eroded	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01
Everly	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.01	Depth to saturated zone	0.61	Shrink-swell	0.01
				Shrink-swell	0.01		
Wilmonton	10	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01
P54D2:							
Moneta, moderately eroded	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01
Everly, moderately eroded	40	Somewhat limited		Very limited		Very limited	
		Slope	0.96	Depth to saturated zone	0.99	Slope	1.00
		Shrink-swell	0.01	Slope	0.96	Shrink-swell	0.01
		Depth to saturated zone	0.01	Shrink-swell	0.01	Depth to saturated zone	0.01
Everly	10	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.01	Depth to saturated zone	0.99	Shrink-swell	0.01
		Depth to saturated zone	0.01	Shrink-swell	0.01	Depth to saturated zone	0.01
Wilmonton	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Shrink-swell	0.01	Shrink-swell	0.01	Shrink-swell	0.01
P55A:							
Kato	90	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	0.22			Shrink-swell	0.22
Somewhat poorly drained soils	10	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	0.22			Shrink-swell	0.22

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P56A:							
Kanaranzi	80	Not limited		Not limited		Not limited	
Allendorf	10	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.27			Shrink-swell	0.27
Moderately well drained soils	10	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.01	Depth to saturated zone	0.99	Depth to saturated zone	0.01
P56B:							
Kanaranzi	80	Not limited		Not limited		Not limited	
Allendorf	14	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.27			Shrink-swell	0.27
Talmo	6	Not limited		Not limited		Not limited	
U3B:							
Udorthents (cut and fill land)	100	Not rated		Not rated		Not rated	
U7:							
Udorthents, shallow, sanitary landfill	100	Not rated		Not rated		Not rated	
U15A:							
Havelock, frequently flooded	80	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	0.04	Shrink-swell	0.50
Havelock, occasionally flooded	10	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	0.04	Shrink-swell	0.50
Calco, frequently flooded	5	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
Spillco, frequently flooded	5	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.01	Depth to saturated zone	0.99	Depth to saturated zone	0.01

Table 13a.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
U24A:							
Havelock, occasionally flooded	80	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	0.04	Shrink-swell	0.50
Havelock, frequently flooded	10	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	0.04	Shrink-swell	0.50
Spillco, occasionally flooded	5	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.01	Depth to saturated zone	0.99	Depth to saturated zone	0.01
Comfrey, occasionally flooded	3	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	0.04	Shrink-swell	0.50
Calco, occasionally flooded	2	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
W:							
Water	100	Not rated		Not rated		Not rated	

Table 13b.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	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
GP:							
Pits, gravel--------	80	Not rated		Not rated		Not rated	
Udipsamments--------	20	Not rated		Not rated		Not rated	
L5A:							
Delft, overwash-----	45	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
		Shrink-swell	0.50				
Delft----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Delft, frequently flooded----------	7	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.01				
Terril----------	6	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.78		
		Frost action	0.50	Cutbanks cave	0.10		
Glencoe, depressional-------	4	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
		Shrink-swell	0.50				
Poorly drained soils	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L6A:							
Biscay	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
		Shrink-swell	0.50				
Biscay, depressional	8	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00	Ponding	1.00
		Low strength	1.00	Ponding	1.00		
		Ponding	1.00				
		Shrink-swell	0.50				
Mayer	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
Cylinder	2	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Depth to saturated zone	0.90	Cutbanks cave	1.00		
L78A:							
Canisteo	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
Crippin	10	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
Glencoe, depressional	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
		Shrink-swell	0.50				
Canisteo, depressional	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L78A:							
Harps----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
Webster----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
L79B:							
Clarion----------	70	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
				Cutbanks cave	0.10		
Clarion, moderately eroded----------	15	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
				Cutbanks cave	0.10		
Nicollet----------	8	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Ocheyedan----------	5	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
				Cutbanks cave	0.10		
Webster----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
L83A:							
Webster----------	65	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
Glencoe, depressional-------	14	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L83A:							
Canisteo----------	8	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
Nicollet----------	8	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Poorly drained soils	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
		Shrink-swell	0.50				
L85A:							
Nicollet----------	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Clarion----------	10	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
				Cutbanks cave	0.10		
Webster----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
L88A:							
Lura, depressional--	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Frost action	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Too clayey	0.72	Ponding	1.00
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
Brownton----------	7	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Too clayey	0.28		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L88A:							
Depressional soils that have an organic surface layer----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Ponding	1.00	Ponding	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Ponding	1.00				
Prinsburg----------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
L96B:							
Estherville---------	55	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.12
Hawick----------	35	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Droughty	1.00
Biscay----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
		Shrink-swell	0.50				
Tomall----------	8	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
				Depth to saturated zone	0.78		
L97C:							
Hawick----------	60	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	1.00
				Slope	0.04	Slope	0.04
Estherville---------	30	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	0.12
				Slope	0.04	Slope	0.04
Tomall----------	10	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
				Depth to saturated zone	0.78		
L98A:							
Crippin----------	50	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L98A:							
Nicollet----------	40	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Canisteo----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
Clarion----------	5	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
				Cutbanks cave	0.10		
L102C2:							
Omsrud, moderately eroded----------	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Low strength	0.78	Cutbanks cave	0.10	Slope	0.04
		Frost action	0.50	Slope	0.04		
		Slope	0.04				
Storden, moderately eroded----------	24	Somewhat limited		Somewhat limited		Somewhat limited	
		Low strength	0.78	Cutbanks cave	0.10	Slope	0.04
		Frost action	0.50	Slope	0.04		
		Slope	0.04				
Omsrud----------	14	Somewhat limited		Somewhat limited		Somewhat limited	
		Low strength	0.78	Cutbanks cave	0.10	Slope	0.04
		Frost action	0.50	Slope	0.04		
		Slope	0.04				
Terril----------	10	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.78		
		Frost action	0.50	Cutbanks cave	0.10		
Delft----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Crooksford----------	2	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Shrink-swell	0.50	Cutbanks cave	0.10		

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L102D2:							
Omsrud, moderately eroded	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Cutbanks cave	0.10		
		Frost action	0.50				
Storden, moderately eroded	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Cutbanks cave	0.10		
		Frost action	0.50				
Omsrud	14	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Cutbanks cave	0.10		
		Frost action	0.50				
Ridgeton	9	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Cutbanks cave	0.10		
		Frost action	0.50				
Delft	6	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Terril	6	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.78		
		Frost action	0.50	Cutbanks cave	0.10		
L107A:							
Canisteo	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
Glencoe, depressional	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
		Shrink-swell	0.50				
Harps	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L107A:							
Canisteo, depressional-------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
		Shrink-swell	0.50				
Crippin----------	2	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
L111A:							
Nicollet----------	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Okabena----------	14	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Clarion----------	4	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
				Cutbanks cave	0.10		
Webster----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
L112A:							
Webster----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Chetomba----------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L112A:							
Glencoe, depressional-------	6	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
		Shrink-swell	0.50				
Canisteo----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
Nicollet----------	2	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
L126A:							
Coland, occasionally flooded----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Minneopa, occasionally flooded----------	10	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
		Frost action	0.50	Depth to saturated zone	0.99	Droughty	0.01
				Flooding	0.60		
Havelock, occasionally flooded----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				
Spillville, occasionally flooded----------	5	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Flooding	0.60	Flooding	0.60
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L127A:							
Coland, frequently flooded----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Minneopa, occasionally flooded----------	10	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
		Frost action	0.50	Depth to saturated zone	0.99		
				Flooding	0.60		
Havelock, frequently flooded----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				
Spillville, occasionally flooded----------	5	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Flooding	0.60	Flooding	0.60
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
L129B:							
Terril----------	90	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.78		
		Frost action	0.50	Cutbanks cave	0.10		
Clarion----------	5	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
				Cutbanks cave	0.10		
Delft----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L130A:							
Okoboji mucky silty clay loam, depressional-------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Ponding	1.00				
Okoboji silty clay loam, depressional	15	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	Too clayey	0.12		
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
Brownton----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Too clayey	0.28		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
Spicer----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
L133A:							
Waldorf----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Too clayey	0.28		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
Marna----------	9	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Too clayey	0.28		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
Chetomba----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L133A:							
Brownton----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Too clayey	0.28		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
Lura, depressional--	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Frost action	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Too clayey	0.72	Ponding	1.00
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
Barbert----------	1	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	Too clayey	0.72		
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
Ocheda----------	1	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.78				
L134B:							
Clarion----------	56	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
				Cutbanks cave	0.10		
Crooksford----------	15	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Clarion, moderately eroded----------	14	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
				Cutbanks cave	0.10		
Nicollet----------	5	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Swanlake----------	5	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.78	Depth to saturated zone	0.78		
		Frost action	0.50	Cutbanks cave	0.10		

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L134B:							
Terril----------	5	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.78		
		Frost action	0.50	Cutbanks cave	0.10		
L135A:							
Okabena----------	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Kingston----------	5	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
Nicollet----------	4	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Chetomba----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Ocheda----------	2	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.78				
Waldorf----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Too clayey	0.28		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
L136A:							
Crooksford----------	80	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Shrink-swell	0.50	Cutbanks cave	0.10		

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L136A:							
Nicollet----------	8	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Clarion----------	7	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
				Cutbanks cave	0.10		
Okabena----------	3	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Webster----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
L137A:							
Cylinder----------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Depth to saturated zone	0.90	Cutbanks cave	1.00		
Biscay----------	4	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
		Shrink-swell	0.50				
Wadena----------	4	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
Linder----------	2	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Depth to saturated zone	0.90	Cutbanks cave	1.00		
L138B:							
Estherville---------	85	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.12
Wadena----------	7	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
Hawick----------	5	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Droughty	1.00

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L138B:							
Cylinder----------	3	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Depth to saturated zone	0.90	Cutbanks cave	1.00		
L139A:							
Wadena----------	85	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
Estherville---------	5	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.12
Kanaranzi----------	5	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
Cylinder----------	3	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Depth to saturated zone	0.90	Cutbanks cave	1.00		
Dickinson----------	2	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
L139B:							
Wadena----------	85	Not limited		Very limited		Not limited	
				Cutbanks cave	1.00		
Estherville---------	7	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.12
Cylinder----------	3	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Depth to saturated zone	0.90	Cutbanks cave	1.00		
Dickinson----------	3	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
Biscay----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
		Shrink-swell	0.50				
L140A:							
Ocheda----------	85	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Depth to saturated zone	0.78				
Guckeen----------	5	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	0.78	Cutbanks cave	0.10		
		Depth to saturated zone	0.78	Too clayey	0.04		

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L140A:							
Collinwood----------	3	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Too clayey	0.28		
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
Nicollet----------	3	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Clarion----------	2	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
				Cutbanks cave	0.10		
Marna----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Too clayey	0.28		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
L141A:							
Spillville, occasionally flooded----------	86	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Flooding	0.60	Flooding	0.60
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
Coland, occasionally flooded----------	8	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Hanlon, occasionally flooded----------	4	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
		Flooding	0.40	Depth to saturated zone	0.99		

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L141A:							
Havelock, occasionally flooded----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				
L144A:							
Chetomba----------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Waldorf----------	13	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Too clayey	0.28		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
Webster----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Okoboji, depressional-------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00	Too clayey	0.02		
		Ponding	1.00				
Prinsburg----------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Okabena----------	1	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L145A:							
Canisteo----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
Glencoe, depressional-------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
		Shrink-swell	0.50				
Webster----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Prinsburg----------	4	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Crippin----------	1	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
L146A:							
Glencoe, depressional-------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
		Shrink-swell	0.50				
Canisteo----------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
Harps----------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L150A:							
Prinsburg----------	75	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Chetomba----------	14	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Webster----------	4	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Canisteo----------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
Okabena----------	2	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Okoboji, depressional-------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00	Too clayey	0.02		
		Ponding	1.00				
L151A:							
Glencoe, ponded-----	80	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	Content of organic matter	1.00		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Okoboji, ponded-----	14	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	1.00				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L151A:							
Klossner, ponded----	6	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	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
L152B:							
Lowlein----------	60	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
				Depth to saturated zone	0.99		
Round Lake----------	20	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.45
				Depth to saturated zone	0.78		
Nicollet----------	12	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Farrar----------	6	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
		Low strength	0.22	Cutbanks cave	0.10		
Webster----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
L153A:							
Essexville----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	0.78				
Canisteo----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
Glencoe, depressional-------	4	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L153A:							
Belleville----------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
Very poorly drained soils in depressions--------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
		Shrink-swell	0.50				
Somewhat poorly drained soils------	1	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.90	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Low strength	0.78	Cutbanks cave	1.00		
		Frost action	0.50				
L154E:							
Belview----------	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Cutbanks cave	0.10		
		Frost action	0.50				
Ridgeton----------	22	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Frost action	0.50				
Omsrud----------	14	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Cutbanks cave	0.10		
		Frost action	0.50				
Delft----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Terril----------	2	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.78		
		Frost action	0.50	Cutbanks cave	0.10		
L155A:							
Okoboji, ponded-----	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L155A:							
Glencoe, ponded-----	10	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	Content of organic matter	1.00		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Blue Earth, ponded--	3	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	Content of organic matter	1.00		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Klossner, ponded----	2	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	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
L156C2:							
Omsrud, moderately eroded----------	44	Somewhat limited		Somewhat limited		Somewhat limited	
		Low strength	0.78	Cutbanks cave	0.10	Slope	0.04
		Frost action	0.50	Slope	0.04		
		Slope	0.04				
Storden, moderately eroded----------	24	Somewhat limited		Somewhat limited		Somewhat limited	
		Low strength	0.78	Cutbanks cave	0.10	Slope	0.04
		Frost action	0.50	Slope	0.04		
		Slope	0.04				
Pilot Grove---------	20	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	0.17
				Slope	0.04	Slope	0.04
Hawick----------	8	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	1.00
				Slope	0.04	Slope	0.04
Delft----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Terril----------	2	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.78		
		Frost action	0.50	Cutbanks cave	0.10		

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L156D2:							
Omsrud, moderately eroded----------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Cutbanks cave	0.10		
		Frost action	0.50				
Storden, moderately eroded----------	25	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Cutbanks cave	0.10		
		Frost action	0.50				
Pilot Grove---------	15	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
				Slope	1.00	Droughty	0.17
Hawick----------	4	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Slope	1.00
				Slope	1.00	Droughty	1.00
Ridgeton----------	2	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Cutbanks cave	0.10		
		Frost action	0.50				
Delft----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Terril----------	2	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.78		
		Frost action	0.50	Cutbanks cave	0.10		
L157A:							
Lowlein----------	78	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
				Depth to saturated zone	0.99		
Nicollet----------	14	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Round Lake----------	4	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.45
				Depth to saturated zone	0.78		

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L157A:							
Webster----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
Farrar----------	2	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
		Low strength	0.22	Cutbanks cave	0.10		
L158B:							
Round Lake----------	80	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.45
				Depth to saturated zone	0.78		
Lowlein----------	13	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
				Depth to saturated zone	0.99		
Ocheyedan----------	3	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
				Cutbanks cave	0.10		
Estherville---------	2	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.12
Webster----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
L159A:							
Knoke, depressional	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Ponding	1.00				
Okoboji, depressional-------	5	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	Too clayey	0.12		
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
Essexville----------	4	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	0.78				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L159A:							
Canisteo----------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
Canisteo, depressional-------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
		Shrink-swell	0.50				
L160B:							
Dickinson, loamy substratum---------	85	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
Farrar----------	8	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
		Low strength	0.22	Cutbanks cave	0.10		
Lowlein----------	7	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
				Depth to saturated zone	0.99		
L161C:							
Estherville---------	38	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	0.12
				Slope	0.04	Slope	0.04
Pilot Grove---------	38	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	0.17
				Slope	0.04	Slope	0.04
Well drained soils--	15	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	0.10	Slope	0.04
		Slope	0.04	Slope	0.04		
Hawick----------	5	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	1.00
				Slope	0.04	Slope	0.04
Delft----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Terril----------	2	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.78		
		Frost action	0.50	Cutbanks cave	0.10		

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L162B:							
Clarion----------	45	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.78		
				Cutbanks cave	0.10		
Round Lake----------	30	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.45
				Depth to saturated zone	0.78		
Estherville---------	8	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.12
Lowlein----------	5	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
				Depth to saturated zone	0.99		
Nicollet----------	5	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Swanlake----------	5	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.78	Depth to saturated zone	0.78		
		Frost action	0.50	Cutbanks cave	0.10		
Webster----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
L163A:							
Okoboji, depressional-------	92	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	Too clayey	0.12		
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Ponding	1.00				
Canisteo----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	0.78				
Harpster----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
L163A:							
Knoke, depressional	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Ponding	1.00	Ponding	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	1.00				
		Ponding	1.00				
Prinsburg----------	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
L170B:							
Estherville---------	50	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.12
Round Lake----------	45	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.45
				Depth to saturated zone	0.78		
Lowlein----------	3	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
				Depth to saturated zone	0.99		
Poorly drained soils	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
		Shrink-swell	0.50				
M-W:							
Water, miscellaneous	100	Not rated		Not rated		Not rated	
P1B:							
Annieville----------	80	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.61		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
McCreath----------	10	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	1.00		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Galva----------	5	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.27				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P1B:							
Primghar----------	5	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
P2A:							
McCreath----------	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	1.00		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
Gillett Grove-------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.78				
Annieville----------	5	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.61		
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Primghar----------	5	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
P3A:							
Biscay, occasionally flooded----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00	Flooding	0.60
		Flooding	1.00	Flooding	0.60		
Cylinder, occasionally flooded----------	10	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Depth to saturated zone	0.90	Cutbanks cave	1.00	Flooding	0.60
		Frost action	0.50	Flooding	0.60		
Talcot, occasionally flooded----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00	Flooding	0.60
		Flooding	1.00	Flooding	0.60		
		Shrink-swell	0.78				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P7A:							
Comfrey, occasionally flooded	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Colo, occasionally flooded	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Havelock, occasionally flooded	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Havelock, frequently flooded	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Spillco, occasionally flooded	5	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.99	Flooding	0.60
		Frost action	0.50	Flooding	0.60		
				Cutbanks cave	0.10		
P9A:							
Gillett Grove	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.78				
McCreath	10	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	1.00		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P9A:							
Afton, frequently flooded	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
P12B:							
Everly	80	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.61		
		Shrink-swell	0.01	Cutbanks cave	0.10		
Sac	10	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Ransom	5	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Wilmonton	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.78	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Frost action	0.50	Cutbanks cave	0.10		
		Shrink-swell	0.01				
P12C2:							
Everly, moderately eroded	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	0.61	Slope	0.04
		Slope	0.04	Cutbanks cave	0.10		
		Shrink-swell	0.01	Slope	0.04		
Everly	10	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.61		
		Shrink-swell	0.01	Cutbanks cave	0.10		
Moneta	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Cutbanks cave	0.10		
		Shrink-swell	0.01				
Wilmonton	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.78	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Frost action	0.50	Cutbanks cave	0.10		
		Shrink-swell	0.01				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P15B:							
Galva	80	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.27				
Primghar	10	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Annieville	5	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.61		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Sac	5	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Shrink-swell	0.50	Cutbanks cave	0.10		
P20B:							
Judson	80	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
Primghar	10	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Galva	5	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.27				
Whitewood, overwash	5	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
P21A:							
Marcus	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.78				
Whitewood, frequently flooded	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P21A:							
Primghar	5	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Spicer	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.04				
P27A:							
Primghar	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Galva	8	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.27				
Marcus	8	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.78				
Judson	4	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.64		
				Cutbanks cave	0.10		
P28A:							
Ransom	80	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Rushmore	8	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Sac	8	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Primghar	4	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P29A:							
Rushmore	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Ransom	10	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Whitewood, frequently flooded	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
P30B:							
Sac	80	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Annieville	10	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.61		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Primghar	5	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Ransom	5	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
P31A:							
Spicer	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.04				
Marcus	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.78				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P31A:							
Whitewood----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
P33A:							
Spillco, occasionally flooded----------	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.99	Flooding	0.60
		Frost action	0.50	Flooding	0.60		
				Cutbanks cave	0.10		
Spillco, frequently flooded----------	10	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	0.99	Flooding	1.00
		Frost action	0.50	Flooding	0.80		
				Cutbanks cave	0.10		
Comfrey, occasionally flooded----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
P36A:							
Talcot, occasionally flooded----------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00	Flooding	0.60
		Flooding	1.00	Flooding	0.60		
		Shrink-swell	0.78				
Biscay, occasionally flooded----------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00	Flooding	0.60
		Flooding	1.00	Flooding	0.60		
Cylinder, occasionally flooded----------	5	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Depth to saturated zone	0.90	Cutbanks cave	1.00	Flooding	0.60
		Frost action	0.50	Flooding	0.60		

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P37D:							
Talmo	90	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Droughty	1.00
				Slope	1.00	Slope	1.00
						Gravel content	0.14
Kanaranzi	5	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Slope	0.04
		Slope	0.04	Slope	0.04		
Thurman	5	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	0.05
				Slope	0.04	Slope	0.04
P38B:							
Thurman	90	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.09
Henkin	10	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
P38C:							
Thurman	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	0.05
				Slope	0.04	Slope	0.04
Henkin	10	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
P43A:							
Wilmonton	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.78	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Frost action	0.50	Cutbanks cave	0.10		
		Shrink-swell	0.01				
Everly	5	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.61		
		Shrink-swell	0.01	Cutbanks cave	0.10		
Ransom	5	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Rushmore	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
P45E:							
Moneta	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
		Shrink-swell	0.01				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P45E:							
Judson	10	Very limited		Somewhat limited		Not limited	
		Frost action	1.00	Cutbanks cave	0.10		
Soils that are moderately deep to carbonates	5	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
		Shrink-swell	0.01				
P48A:							
Allendorf	85	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
		Shrink-swell	0.27				
Kanaranzi	5	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
Moderately well drained soils	5	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
		Shrink-swell	0.27	Depth to saturated zone	0.99		
Sac	5	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Shrink-swell	0.50	Cutbanks cave	0.10		
P48B:							
Allendorf	85	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
		Shrink-swell	0.27				
Kanaranzi	5	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
Moderately well drained soils	5	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
		Shrink-swell	0.27	Depth to saturated zone	0.99		
Sac	5	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Shrink-swell	0.50	Cutbanks cave	0.10		
P49A:							
Comfrey, frequently flooded	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
						Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.80		
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P49A:							
Comfrey, occasionally flooded----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Havelock, frequently flooded----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				
		Shrink-swell	0.50				
Spillco, occasionally flooded----------	5	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.99	Flooding	0.60
		Low strength	1.00	Flooding	0.60		
		Frost action	0.50	Cutbanks cave	0.10		
P50B:							
Everly----------	60	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.61		
		Frost action	0.50	Cutbanks cave	0.10		
		Shrink-swell	0.01				
Kanaranzi----------	25	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
Wilmonton----------	10	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Frost action	0.50				
		Shrink-swell	0.01				
Ransom----------	5	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.78				
		Shrink-swell	0.50				
P51C2:							
Everly, moderately eroded----------	40	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	0.61	Slope	0.04
		Frost action	0.50	Cutbanks cave	0.10		
		Shrink-swell	0.32	Slope	0.04		
		Slope	0.04				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P51C2:							
Moneta, moderately eroded----------	20	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Cutbanks cave	0.10		
		Frost action	0.50				
		Shrink-swell	0.01				
Talmo, moderately eroded----------	20	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Cutbanks cave	1.00	Droughty	1.00
				Slope	0.04	Gravel content	0.14
						Slope	0.04
Everly----------	10	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.61		
		Shrink-swell	0.01				
				Cutbanks cave	0.10		
Kanaranzi----------	5	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Slope	0.04
		Slope	0.04	Slope	0.04		
Wilmonton----------	5	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Depth to saturated zone	0.78	Cutbanks cave	0.10		
		Frost action	0.50				
		Shrink-swell	0.01				
P52D2:							
Moneta, moderately eroded----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
		Shrink-swell	0.01				
Everly, moderately eroded----------	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.96	Slope	0.96	Slope	0.96
		Frost action	0.50	Depth to saturated zone	0.61		
		Shrink-swell	0.01				
				Cutbanks cave	0.10		
Talmo, moderately eroded----------	20	Very limited		Very limited		Very limited	
		Slope	1.00	Cutbanks cave	1.00	Droughty	1.00
				Slope	1.00	Slope	1.00
						Gravel content	0.14
Everly----------	10	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.99		
		Shrink-swell	0.01				
				Cutbanks cave	0.10		
Kanaranzi----------	5	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Slope	0.04
		Slope	0.04	Slope	0.04		

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P52D2:							
Wilmonton----------	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.78	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Frost action	0.50	Cutbanks cave	0.10		
		Shrink-swell	0.01				
P53C2:							
Everly, moderately eroded----------	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Frost action	0.50	Depth to saturated zone	0.61	Slope	0.04
		Slope	0.04	Cutbanks cave	0.10		
		Shrink-swell	0.01	Slope	0.04		
Moneta, moderately eroded----------	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
		Frost action	0.50	Cutbanks cave	0.10		
		Shrink-swell	0.01				
Everly----------	10	Somewhat limited		Somewhat limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.61		
		Shrink-swell	0.01	Cutbanks cave	0.10		
Wilmonton----------	10	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.78	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Frost action	0.50	Cutbanks cave	0.10		
		Shrink-swell	0.01				
P54D2:							
Moneta, moderately eroded----------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10		
		Shrink-swell	0.01				
Everly, moderately eroded----------	40	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.96	Depth to saturated zone	0.99	Slope	0.96
		Frost action	0.50	Slope	0.96		
		Shrink-swell	0.01	Cutbanks cave	0.10		
Everly----------	10	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.99		
		Shrink-swell	0.01	Cutbanks cave	0.10		
Wilmonton----------	5	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.78	Depth to saturated zone	1.00	Depth to saturated zone	0.78
		Frost action	0.50	Cutbanks cave	0.10		
		Shrink-swell	0.01				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
P55A:							
Kato	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Shrink-swell	0.22				
Somewhat poorly drained soils	10	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.90
		Depth to saturated zone	0.90	Cutbanks cave	1.00		
		Shrink-swell	0.22				
P56A:							
Kanaranzi	80	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
Allendorf	10	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
		Shrink-swell	0.27				
Moderately well drained soils	10	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
				Depth to saturated zone	0.99		
P56B:							
Kanaranzi	80	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
Allendorf	14	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
		Shrink-swell	0.27				
Talmo	6	Not limited		Very limited		Very limited	
				Cutbanks cave	1.00	Droughty	1.00
						Gravel content	0.14
U3B:							
Udorthents (cut and fill land)	100	Not rated		Not rated		Not rated	
U7:							
Udorthents, shallow, sanitary landfill	100	Not rated		Not rated		Not rated	
U15A:							
Havelock, frequently flooded	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
U15A:							
Havelock, occasionally flooded----------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Calco, frequently flooded----------	5	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Spillco, frequently flooded----------	5	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	0.99	Flooding	1.00
		Frost action	0.50	Flooding	0.80		
				Cutbanks cave	0.10		
U24A:							
Havelock, occasionally flooded----------	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Havelock, frequently flooded----------	10	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
Spillco, occasionally flooded----------	5	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.99	Flooding	0.60
		Frost action	0.50	Flooding	0.60		
				Cutbanks cave	0.10		
Comfrey, occasionally flooded----------	3	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and component name	Pct. of map unit	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
U24A:							
Calco, occasionally flooded	2	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Flooding	0.60	Flooding	0.60
		Flooding	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
W:							
Water	100	Not rated		Not rated		Not rated	

Table 14a.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
GP:					
Pits, gravel--------	80	Not rated		Not rated	
Udipsamments--------	20	Not rated		Not rated	
L5A:					
Delft, overwash-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Delft----------	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Delft, frequently flooded----------	7	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril----------	6	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Glencoe, depressional-------	4	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Poorly drained soils	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L6A:					
Biscay----------	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.08
Biscay, depressional	8	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.08
Mayer----------	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.58
Cylinder----------	2	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.04	Bottom layer	0.10

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L78A:					
Canisteo----------	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Crippin----------	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Glencoe, depressional-------	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Canisteo, depressional-------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Harps----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Webster----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L79B:					
Clarion----------	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Clarion, moderately eroded----------	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nicollet----------	8	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ocheyedan----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Webster----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L83A:					
Webster----------	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Glencoe, depressional-------	14	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L83A:					
Canisteo----------	8	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nicollet----------	8	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Poorly drained soils	5	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.56
L85A:					
Nicollet----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Clarion----------	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Webster----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L88A:					
Lura, depressional--	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Brownton----------	7	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Depressional soils that have an organic surface layer----------	5	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Prinsburg----------	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L96B:					
Estherville---------	55	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.05	Bottom layer	0.69
Hawick----------	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.01
		Bottom layer	0.05	Bottom layer	0.50
Biscay----------	2	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.47

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L96B:					
Tomall	8	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.10
L97C:					
Hawick	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.01
		Bottom layer	0.05	Bottom layer	0.50
Estherville	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.05	Bottom layer	0.69
Tomall	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.10
L98A:					
Crippin	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nicollet	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Canisteo	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Clarion	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L102C2:					
Omsrud, moderately eroded	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Storden, moderately eroded	24	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Omsrud	14	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Delft	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Crooksford	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L102D2:					
Omsrud, moderately eroded	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Storden, moderately eroded	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Omsrud	14	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton	9	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Delft	6	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril	6	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L107A:					
Canisteo	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Glencoe, depressional	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Harps	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Canisteo, depressional	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Crippin	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L111A:					
Nicollet	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Okabena	14	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L111A:					
Clarion----------	4	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Webster----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L112A:					
Webster----------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Chetomba----------	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Glencoe, depressional-------	6	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Canisteo----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nicollet----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L126A:					
Coland, occasionally flooded----------	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Minneopa, occasionally flooded----------	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.10
Havelock, occasionally flooded----------	5	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Spillville, occasionally flooded----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L127A:					
Coland, frequently flooded----------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L127A:					
Minneopa, occasionally flooded	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.57
Havelock, frequently flooded	5	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Spillville, occasionally flooded	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L129B:					
Terril	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Clarion	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Delft	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L130A:					
Okoboji mucky silty clay loam, depressional	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Okoboji silty clay loam, depressional	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Brownton	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Spicer	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L133A:					
Waldorf	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Marna	9	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L133A:					
Chetomba	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Brownton	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lura, depressional	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Barbert	1	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ocheda	1	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L134B:					
Clarion	56	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Crooksford	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Clarion, moderately eroded	14	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nicollet	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Swanlake	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L135A:					
Okabena	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kingston	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nicollet	4	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L135A:					
Chetomba	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ocheda	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Waldorf	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L136A:					
Crooksford	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nicollet	8	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Clarion	7	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Okabena	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Webster	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L137A:					
Cylinder	90	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.04	Bottom layer	0.10
Biscay	4	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.47
Wadena	4	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.88
Linder	2	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.17
L138B:					
Estherville	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.69
Wadena	7	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.88

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L138B:					
Hawick	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.01
		Bottom layer	0.05	Bottom layer	0.50
Cylinder	3	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.04	Bottom layer	0.10
L139A:					
Wadena	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.88
Estherville	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.69
Kanaranzi	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.54
Cylinder	3	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.04	Bottom layer	0.10
Dickinson	2	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.07
L139B:					
Wadena	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.79
Estherville	7	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.05	Bottom layer	0.69
Cylinder	3	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.04	Bottom layer	0.10
Dickinson	3	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.07
Biscay	2	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.08	Bottom layer	0.47
L140A:					
Ocheda	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Guckeen	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L140A:					
Collinwood----------	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nicollet----------	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Clarion----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Marna----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L141A:					
Spillville, occasionally flooded----------	86	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Coland, occasionally flooded----------	8	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Hanlon, occasionally flooded----------	4	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.06
Havelock, occasionally flooded----------	2	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
L144A:					
Chetomba----------	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Waldorf----------	13	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Webster----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Okoboji, depressional-------	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L144A:					
Prinsburg----------	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Okabena----------	1	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L145A:					
Canisteo----------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Glencoe, depressional-------	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Webster----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Prinsburg----------	4	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Crippin----------	1	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L146A:					
Glencoe, depressional-------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Canisteo----------	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Harps----------	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L150A:					
Prinsburg----------	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Chetomba----------	14	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Webster----------	4	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L150A:					
Canisteo----------	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Okabena----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Okoboji, depressional-------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L151A:					
Glencoe, ponded-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Okoboji, ponded-----	14	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Klossner, ponded----	6	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L152B:					
Lowlein----------	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Round Lake----------	20	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.69
Nicollet----------	12	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Farrar----------	6	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Webster----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L153A:					
Essexville----------	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.36
Canisteo----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L153A:					
Glencoe, depressional-------	4	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Belleville----------	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Very poorly drained soils in depressions--------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Somewhat poorly drained soils------	1	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.08
L154E:					
Belview----------	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ridgeton----------	22	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Omsrud----------	14	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Delft----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L155A:					
Okoboji, ponded-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Glencoe, ponded-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Blue Earth, ponded--	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Klossner, ponded----	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel: Rating class	Value	Potential as source of sand: Rating class	Value
L156C2:					
Omsrud, moderately eroded	44	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Storden, moderately eroded	24	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Pilot Grove	20	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.05	Thickest layer	0.69
Hawick	8	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.01
		Bottom layer	0.05	Bottom layer	0.50
Delft	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L156D2:					
Omsrud, moderately eroded	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Storden, moderately eroded	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Pilot Grove	15	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.05	Thickest layer	0.69
Hawick	4	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.05	Bottom layer	0.50
Ridgeton	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Delft	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L157A:					
Lowlein----------	78	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nicollet----------	14	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Round Lake----------	4	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.69
Webster----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Farrar----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L158B:					
Round Lake----------	80	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.69
Lowlein----------	13	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.03
Ocheyedan----------	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Estherville---------	2	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.05	Bottom layer	0.69
Webster----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L159A:					
Knoke, depressional	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Okoboji, depressional-------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Essexville----------	4	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.36
Canisteo----------	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L159A:					
Canisteo, depressional-------	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L160B:					
Dickinson, loamy substratum---------	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.36
Farrar----------	8	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lowlein----------	7	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.03
L161C:					
Estherville---------	38	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.05	Bottom layer	0.69
Pilot Grove---------	38	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.05	Thickest layer	0.47
Well drained soils--	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hawick----------	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.01
		Bottom layer	0.05	Bottom layer	0.50
Delft----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Terril----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L162B:					
Clarion----------	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Round Lake----------	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.69
Estherville---------	8	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.05	Bottom layer	0.69

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
L162B:					
Lowlein----------	5	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.03
Nicollet----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Swanlake----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Webster----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L163A:					
Okoboji, depressional-------	92	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Canisteo----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Harpster----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Knoke, depressional	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Prinsburg----------	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
L170B:					
Estherville---------	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.05	Bottom layer	0.69
Round Lake----------	45	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.69
Lowlein----------	3	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.03
Poorly drained soils	2	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.56
M-W:					
Water, miscellaneous	100	Not rated		Not rated	

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
P1B:					
Annieville----------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
McCreath----------	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Galva----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Primghar----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P2A:					
McCreath----------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Gillett Grove-------	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Annieville----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Primghar----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P3A:					
Biscay, occasionally flooded----------	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.47
Cylinder, occasionally flooded----------	10	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.36
Talcot, occasionally flooded----------	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.47
P7A:					
Comfrey, occasionally flooded----------	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
P7A:					
Colo, occasionally flooded	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Havelock, occasionally flooded	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Havelock, frequently flooded	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Spillco, occasionally flooded	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P9A:					
Gillett Grove	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
McCreath	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Afton, frequently flooded	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P12B:					
Everly	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Sac	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ransom	5	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Wilmonton	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P12C2:					
Everly, moderately eroded	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
P12C2:					
Everly	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Moneta	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Wilmonton	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P15B:					
Galva	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Primghar	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Annieville	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Sac	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P20B:					
Judson	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Primghar	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Galva	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Whitewood, overwash	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P21A:					
Marcus	80	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
Whitewood, frequently flooded	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Primghar	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
P21A:					
Spicer	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P27A:					
Primghar	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Galva	8	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Marcus	8	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Judson	4	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P28A:					
Ransom	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rushmore	8	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Sac	8	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Primghar	4	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P29A:					
Rushmore	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ransom	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Whitewood, frequently flooded	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P30B:					
Sac	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Annieville	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
P30B:					
Primghar	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ransom	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P31A:					
Spicer	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Marcus	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Whitewood	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P33A:					
Spillco, occasionally flooded	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Spillco, frequently flooded	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Comfrey, occasionally flooded	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P36A:					
Talcot, occasionally flooded	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.47
Biscay, occasionally flooded	10	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.47
Cylinder, occasionally flooded	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.36

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
P37D:					
Talmo	90	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.47	Bottom layer	0.82
Kanaranzi	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.54
Thurman	5	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.57
P38B:					
Thurman	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.57
Henkin	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.22
P38C:					
Thurman	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.57
Henkin	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.22
P43A:					
Wilmonton	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Everly	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ransom	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rushmore	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P45E:					
Moneta	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Judson	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
P45E:					
Soils that are moderately deep to carbonates---------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P48A:					
Allendorf----------	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.10
Kanaranzi----------	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.54
Moderately well drained soils------	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.10
Sac----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P48B:					
Allendorf----------	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.10
Kanaranzi----------	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.54
Moderately well drained soils------	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.10
Sac----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P49A:					
Comfrey, frequently flooded----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Comfrey, occasionally flooded----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Havelock, frequently flooded----------	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
P49A:					
Spillco, occasionally flooded	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P50B:					
Everly	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kanaranzi	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.44
Wilmonton	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ransom	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P51C2:					
Everly, moderately eroded	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Moneta, moderately eroded	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Talmo, moderately eroded	20	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.47	Bottom layer	0.82
Everly	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kanaranzi	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.54
Wilmonton	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P52D2:					
Moneta, moderately eroded	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
P52D2:					
Everly, moderately eroded	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Talmo, moderately eroded	20	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.47	Bottom layer	0.82
Everly	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Kanaranzi	5	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.54
Wilmonton	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P53C2:					
Everly, moderately eroded	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Moneta, moderately eroded	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Everly	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Wilmonton	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
P54D2:					
Moneta, moderately eroded	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Everly, moderately eroded	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Everly	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Wilmonton	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
P55A:					
Kato	90	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.47
Somewhat poorly drained soils	10	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.47
P56A:					
Kanaranzi	80	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.54
Allendorf	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.10
Moderately well drained soils	10	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.54
P56B:					
Kanaranzi	80	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.54
Allendorf	14	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.01	Bottom layer	0.10
Talmo	6	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.47	Bottom layer	0.44
U3B:					
Udorthents (cut and fill land)	100	Not rated		Not rated	
U7:					
Udorthents, shallow, sanitary landfill	100	Not rated		Not rated	
U15A:					
Havelock, frequently flooded	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Havelock, occasionally flooded	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Calco, frequently flooded	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 14a.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
U15A:					
Spillco, frequently flooded	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
U24A:					
Havelock, occasionally flooded	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Havelock, frequently flooded	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Spillco, occasionally flooded	5	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Comfrey, occasionally flooded	3	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Calco, occasionally flooded	2	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
W:					
Water	100	Not rated		Not rated	

Table 14b.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GP:							
Pits, gravel--------	80	Not rated		Not rated		Not rated	
Udipsamments--------	20	Not rated		Not rated		Not rated	
L5A:							
Delft, overwash-----	45	Good		Fair		Fair	
				Depth to saturated zone	0.14	Depth to saturated zone	0.14
				Low strength	0.22		
				Shrink-swell	0.99		
Delft----------	35	Good		Poor		Poor	
				Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00		
				Shrink-swell	0.99		
Delft, frequently flooded----------	7	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.22		
Terril----------	6	Good		Fair		Good	
				Low strength	0.22		
Glencoe, depressional-------	4	Good		Poor		Poor	
				Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.00		
				Shrink-swell	0.93		
Poorly drained soils	3	Fair		Poor		Poor	
		Water erosion	0.90	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98				
				Low strength	0.22	Too clayey	0.98
				Shrink-swell	0.96		
L6A:							
Biscay----------	85	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
						Hard to reclaim (rock fragments)	0.68
Biscay, depressional	8	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
						Hard to reclaim (rock fragments)	0.68

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L6A:							
Mayer	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.84			Hard to reclaim (rock fragments)	0.68
						Carbonate content	0.84
Cylinder	2	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.06	Depth to saturated zone	0.06
						Hard to reclaim (rock fragments)	0.97
L78A:							
Canisteo	65	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Low strength	0.22	Carbonate content	0.97
Crippin	10	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Carbonate content	0.97	Low strength	0.22		
Glencoe, depressional	10	Good		Poor		Poor	
				Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.00		
				Shrink-swell	0.93		
Canisteo, depressional	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.22		
				Shrink-swell	0.99		
Harps	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.32	Low strength	0.22	Carbonate content	0.97
Webster	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Low strength	0.22	Too clayey	0.99
				Shrink-swell	0.99		
L79B:							
Clarion	70	Fair		Fair		Good	
		Low content of organic matter	0.12	Low strength	0.22		
		Carbonate content	0.97				
		Water erosion	0.99				

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L79B:							
Clarion, moderately eroded	15	Fair		Good		Good	
		Low content of organic matter	0.88				
		Carbonate content	0.97				
		Water erosion	0.99				
Nicollet	8	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Too clayey	0.98	Low strength	0.22	Too clayey	0.98
				Shrink-swell	0.98		
Ocheyedan	5	Fair		Good		Good	
		Low content of organic matter	0.12				
		Water erosion	0.90				
Webster	2	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Low strength	0.22	Too clayey	0.99
				Shrink-swell	0.99		
L83A:							
Webster	65	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Low strength	0.22	Too clayey	0.99
				Shrink-swell	0.99		
Glencoe, depressional	14	Good		Poor		Poor	
				Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00		
				Shrink-swell	0.93		
Canisteo	8	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Low strength	0.22	Rock fragments	0.97
Nicollet	8	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Too clayey	0.98	Low strength	0.22	Too clayey	0.98
				Shrink-swell	0.98		
Poorly drained soils	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99			Too clayey	0.99
L85A:							
Nicollet	85	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Too clayey	0.98	Shrink-swell	0.98	Too clayey	0.98

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L85A:							
Clarion----------	10	Fair		Good		Good	
		Low content of organic matter	0.12				
		Carbonate content	0.97				
		Water erosion	0.99				
Webster----------	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Shrink-swell	0.99	Too clayey	0.99
L88A:							
Lura, depressional--	85	Poor		Poor		Poor	
		Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.00	Too clayey	0.00
				Shrink-swell	0.12		
Brownton----------	7	Fair		Poor		Poor	
		Too clayey	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.99				
				Low strength	0.22	Too clayey	0.12
				Shrink-swell	0.68		
Depressional soils that have an organic surface layer----------	5	Poor		Poor		Poor	
		Wind erosion	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.08				
		Low content of organic matter	0.50	Low strength	0.00	Too clayey	0.08
				Shrink-swell	0.74		
Prinsburg----------	3	Fair		Poor		Poor	
		Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Water erosion	0.99				
				Low strength	0.00	Too clayey	0.98
L96B:							
Estherville---------	55	Poor		Good		Poor	
		Too sandy	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Too sandy	0.00
		Droughty	0.30			Hard to reclaim (rock fragments)	0.82
Hawick----------	35	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.06			Rock fragments	0.03
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.98
Biscay----------	2	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97			Hard to reclaim (rock fragments)	0.68

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L96B:							
Tomall	8	Good		Good		Fair	
						Hard to reclaim (rock fragments)	0.92
L97C:							
Hawick	60	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.06			Rock fragments	0.03
		Low content of organic matter	0.12			Slope	0.96
						Hard to reclaim (rock fragments)	0.98
Estherville	30	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
		Droughty	0.30			Hard to reclaim (rock fragments)	0.82
						Slope	0.96
Tomall	10	Good		Good		Fair	
						Hard to reclaim (rock fragments)	0.92
L98A:							
Crippin	50	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Carbonate content	0.97	Low strength	0.22		
Nicollet	40	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Too clayey	0.98	Low strength	0.22	Too clayey	0.98
				Shrink-swell	0.98		
Canisteo	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Low strength	0.22	Carbonate content	0.97
Clarion	5	Fair		Fair		Good	
		Low content of organic matter	0.12	Low strength	0.22		
		Carbonate content	0.97				
		Water erosion	0.99				
L102C2:							
Omsrud, moderately eroded	45	Fair		Fair		Fair	
		Low content of organic matter	0.12	Low strength	0.22	Slope	0.96
		Carbonate content	0.97			Carbonate content	0.97
Storden, moderately eroded	24	Fair		Fair		Fair	
		Low content of organic matter	0.12	Low strength	0.22	Slope	0.96
		Carbonate content	0.97			Carbonate content	0.97

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L102C2:							
Omsrud	14	Fair		Fair		Fair	
		Low content of organic matter	0.12	Low strength	0.22	Slope	0.96
		Carbonate content	0.97			Carbonate content	0.97
Terril	10	Good		Fair		Good	
				Low strength	0.22		
Delft	5	Good		Poor		Poor	
				Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.00		
				Shrink-swell	0.99		
Crooksford	2	Fair		Poor		Fair	
		Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.88
		Water erosion	0.90	Depth to saturated zone	0.88		
		Carbonate content	0.92	Shrink-swell	0.94		
L102D2:							
Omsrud, moderately eroded	45	Fair		Fair		Poor	
		Low content of organic matter	0.12	Low strength	0.22	Slope	0.00
		Carbonate content	0.97			Carbonate content	0.97
Storden, moderately eroded	20	Fair		Fair		Poor	
		Low content of organic matter	0.12	Low strength	0.22	Slope	0.00
		Carbonate content	0.97			Carbonate content	0.97
Omsrud	14	Fair		Fair		Poor	
		Low content of organic matter	0.12	Low strength	0.22	Slope	0.00
		Carbonate content	0.97			Carbonate content	0.97
Ridgeton	9	Good		Fair		Fair	
				Low strength	0.22	Slope	0.37
Delft	6	Good		Poor		Poor	
				Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00		
				Shrink-swell	0.99		
Terril	6	Good		Fair		Good	
				Low strength	0.22		
L107A:							
Canisteo	50	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Low strength	0.22	Carbonate content	0.97

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L107A:							
Glencoe, depressional-------	35	Good		Poor		Poor	
				Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00		
				Shrink-swell	0.93		
Harps----------	10	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.32	Low strength	0.22	Carbonate content	0.97
Canisteo, depressional-------	3	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.22		
				Shrink-swell	0.99		
Crippin----------	2	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Carbonate content	0.97	Low strength	0.22		
L111A:							
Nicollet----------	80	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Carbonate content	0.97	Low strength	0.22		
				Shrink-swell	0.99		
Okabena----------	14	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.12
		Carbonate content	0.97	Depth to saturated zone	0.12	Carbonate content	0.97
		Water erosion	0.99				
Clarion----------	4	Fair		Fair		Good	
		Low content of organic matter	0.12	Low strength	0.22		
		Carbonate content	0.97				
		Water erosion	0.99				
Webster----------	2	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Low strength	0.22	Too clayey	0.99
				Shrink-swell	0.95		
L112A:							
Webster----------	80	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Low strength	0.22	Too clayey	0.99
				Shrink-swell	0.95		

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L112A:							
Chetomba	10	Fair		Poor		Poor	
		Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Water erosion	0.99	Low strength	0.22	Too clayey	0.98
				Shrink-swell	0.99		
Glencoe, depressional	6	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.22		
				Shrink-swell	0.97		
Canisteo	2	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Low strength	0.22	Too clayey	0.98
Nicollet	2	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Carbonate content	0.97	Low strength	0.22		
				Shrink-swell	0.99		
L126A:							
Coland, occasionally flooded	80	Fair		Poor		Poor	
		Too clayey	0.98	Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00	Too clayey	0.98
				Shrink-swell	0.92		
Minneopa, occasionally flooded	10	Poor		Fair		Poor	
		Too sandy	0.00	Depth to saturated zone	0.88	Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.68
		Droughty	0.93			Depth to saturated zone	0.88
Havelock, occasionally flooded	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Shrink-swell	0.86	Carbonate content	0.97
		Too clayey	0.98			Too clayey	0.98
Spillville, occasionally flooded	5	Good		Poor		Fair	
				Low strength	0.00	Depth to saturated zone	0.12
				Depth to saturated zone	0.12		
				Shrink-swell	0.94		

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L127A:							
Coland, frequently flooded	80	Good		Poor		Poor	
				Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00		
				Shrink-swell	0.91		
Minneopa, occasionally flooded	10	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.88	Depth to saturated zone	0.88
		Droughty	0.98				
Havelock, frequently flooded	5	Fair		Poor		Poor	
		Carbonate content	0.97	Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00	Carbonate content	0.97
				Shrink-swell	0.73		
Spillville, occasionally flooded	5	Good		Poor		Fair	
				Low strength	0.00	Depth to saturated zone	0.12
				Depth to saturated zone	0.12		
				Shrink-swell	0.94		
L129B:							
Terril	90	Good		Fair		Good	
				Low strength	0.22		
Clarion	5	Fair		Fair		Good	
		Low content of organic matter	0.12	Low strength	0.22		
		Carbonate content	0.97				
		Water erosion	0.99				
Delft	5	Good		Poor		Poor	
				Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00		
				Shrink-swell	0.99		
L130A:							
Okoboji mucky silty clay loam, depressional	75	Fair		Poor		Poor	
		Too clayey	0.08	Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00	Too clayey	0.08
				Shrink-swell	0.16		

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L130A:							
Okoboji silty clay loam, depressional	15	Fair		Poor		Poor	
		Too clayey	0.05	Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00	Too clayey	0.05
				Shrink-swell	0.12		
Brownton----------	5	Fair		Poor		Poor	
		Too clayey	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.99	Low strength	0.22	Too clayey	0.12
				Shrink-swell	0.68		
Spicer----------	5	Fair		Poor		Poor	
		Carbonate content	0.97	Low strength	0.00	Depth to saturated zone	0.00
		Water erosion	0.99	Depth to saturated zone	0.00	Carbonate content	0.97
				Shrink-swell	0.99		
L133A:							
Waldorf----------	80	Poor		Poor		Poor	
		Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.80	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.88	Shrink-swell	0.19		
Marna----------	9	Fair		Poor		Poor	
		Too clayey	0.05	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Low strength	0.22	Too clayey	0.05
				Shrink-swell	0.74		
Chetomba----------	5	Fair		Poor		Poor	
		Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Water erosion	0.99	Low strength	0.22	Too clayey	0.98
				Shrink-swell	0.99		
Brownton----------	2	Fair		Poor		Poor	
		Too clayey	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.99	Low strength	0.22	Too clayey	0.12
				Shrink-swell	0.68		
Lura, depressional--	2	Poor		Poor		Poor	
		Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.00	Too clayey	0.00
				Shrink-swell	0.12		
Barbert----------	1	Poor		Poor		Poor	
		Too clayey	0.00	Depth to saturated zone	0.00	Too clayey	0.00
		Too acid	0.84	Low strength	0.00	Depth to saturated zone	0.00
				Shrink-swell	0.84		

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L133A:							
Ocheda	1	Fair		Poor		Fair	
		Too clayey	0.12	Low strength	0.00	Depth to saturated zone	0.12
		Carbonate content	0.97	Depth to saturated zone	0.12	Too clayey	0.12
				Shrink-swell	0.16		
L134B:							
Clarion	56	Fair		Fair		Good	
		Low content of organic matter	0.12	Low strength	0.22		
		Carbonate content	0.97				
		Water erosion	0.99				
Crooksford	15	Fair		Poor		Fair	
		Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.88
		Water erosion	0.90	Depth to saturated zone	0.88		
		Carbonate content	0.92	Shrink-swell	0.94		
Clarion, moderately eroded	14	Fair		Good		Good	
		Low content of organic matter	0.88				
		Carbonate content	0.97				
		Water erosion	0.99				
Nicollet	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Carbonate content	0.97	Low strength	0.22		
				Shrink-swell	0.99		
Swanlake	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Low strength	0.22	Carbonate content	0.97
		Carbonate content	0.97				
Terril	5	Good		Fair		Good	
				Low strength	0.22		
L135A:							
Okabena	85	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.12
		Carbonate content	0.97	Depth to saturated zone	0.12	Carbonate content	0.97
		Water erosion	0.99				
Kingston	5	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.12
		Water erosion	0.99	Depth to saturated zone	0.12		
Nicollet	4	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Carbonate content	0.97	Low strength	0.22		
				Shrink-swell	0.99		

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L135A:							
Chetomba----------	2	Fair		Poor		Poor	
		Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Water erosion	0.99	Low strength	0.22	Too clayey	0.98
				Shrink-swell	0.99		
Ocheda----------	2	Fair		Poor		Fair	
		Too clayey	0.12	Low strength	0.00	Depth to saturated zone	0.12
		Carbonate content	0.97	Depth to saturated zone	0.12	Too clayey	0.12
				Shrink-swell	0.16		
Waldorf----------	2	Poor		Poor		Poor	
		Too clayey	0.00	Depth to saturated zone	0.00	Too clayey	0.00
		Carbonate content	0.80	Low strength	0.00	Depth to saturated zone	0.00
		Low content of organic matter	0.88	Shrink-swell	0.19		
L136A:							
Crooksford----------	80	Fair		Poor		Fair	
		Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.88
		Water erosion	0.90	Depth to saturated zone	0.88		
		Carbonate content	0.92	Shrink-swell	0.94		
Nicollet----------	8	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Carbonate content	0.97	Low strength	0.22		
				Shrink-swell	0.99		
Clarion----------	7	Fair		Fair		Good	
		Low content of organic matter	0.12	Low strength	0.22		
		Carbonate content	0.97				
		Water erosion	0.99				
Okabena----------	3	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.12
		Carbonate content	0.97	Depth to saturated zone	0.12	Carbonate content	0.97
		Water erosion	0.99				
Webster----------	2	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Low strength	0.22	Too clayey	0.99
				Shrink-swell	0.95		
L137A:							
Cylinder----------	90	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.06	Depth to saturated zone	0.06
						Hard to reclaim (rock fragments)	0.97

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L137A:							
Biscay	4	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97			Hard to reclaim (rock fragments)	0.68
Wadena	4	Fair		Good		Fair	
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.82
Linder	2	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.06	Depth to saturated zone	0.06
		Carbonate content	0.97			Hard to reclaim (rock fragments)	0.50
L138B:							
Estherville	85	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
		Droughty	0.30			Hard to reclaim (rock fragments)	0.82
Wadena	7	Fair		Good		Fair	
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.82
Hawick	5	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.06			Rock fragments	0.03
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.98
Cylinder	3	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.06	Depth to saturated zone	0.06
						Hard to reclaim (rock fragments)	0.97
L139A:							
Wadena	85	Fair		Good		Fair	
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.82
Estherville	5	Poor		Good		Poor	
		Too sandy	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Too sandy	0.00
		Droughty	0.30			Hard to reclaim (rock fragments)	0.82
Kanaranzi	5	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
		Water erosion	0.90			Rock fragments	0.00

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L139A:							
Cylinder	3	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.06	Depth to saturated zone	0.06
						Hard to reclaim (rock fragments)	0.97
Dickinson	2	Fair		Good		Good	
		Low content of organic matter	0.50				
		Too acid	0.84				
L139B:							
Wadena	85	Fair		Good		Good	
		Low content of organic matter	0.12				
Estherville	7	Poor		Good		Poor	
		Too sandy	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Too sandy	0.00
		Droughty	0.30			Hard to reclaim (rock fragments)	0.82
Cylinder	3	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.06	Depth to saturated zone	0.06
						Hard to reclaim (rock fragments)	0.97
Dickinson	3	Fair		Good		Good	
		Low content of organic matter	0.50				
		Too acid	0.84				
Biscay	2	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97			Hard to reclaim (rock fragments)	0.68
L140A:							
Ocheda	85	Fair		Poor		Fair	
		Too clayey	0.12	Low strength	0.00	Too clayey	0.12
		Carbonate content	0.97	Depth to saturated zone	0.12	Depth to saturated zone	0.12
				Shrink-swell	0.16		
Guckeen	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Too clayey	0.12
		Too clayey	0.12	Low strength	0.22	Depth to saturated zone	0.12
		Water erosion	0.99	Shrink-swell	0.91		
Collinwood	3	Fair		Poor		Fair	
		Too clayey	0.12	Low strength	0.00	Depth to saturated zone	0.12
				Depth to saturated zone	0.12	Too clayey	0.12
				Shrink-swell	0.20		

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L140A:							
Nicollet	3	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Carbonate content	0.97	Low strength	0.22		
				Shrink-swell	0.99		
Clarion	2	Fair		Fair		Good	
		Low content of organic matter	0.12	Low strength	0.22		
		Carbonate content	0.97				
		Water erosion	0.99				
Marna	2	Fair		Poor		Poor	
		Too clayey	0.05	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Low strength	0.22	Too clayey	0.05
				Shrink-swell	0.74		
L141A:							
Spillville, occasionally flooded	86	Good		Poor		Fair	
				Low strength	0.00	Depth to saturated zone	0.12
				Depth to saturated zone	0.12		
				Shrink-swell	0.94		
Coland, occasionally flooded	8	Fair		Poor		Poor	
		Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.00	Too clayey	0.98
				Shrink-swell	0.92		
Hanlon, occasionally flooded	4	Good		Fair		Fair	
				Depth to saturated zone	0.88	Depth to saturated zone	0.88
Havelock, occasionally flooded	2	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Shrink-swell	0.86	Carbonate content	0.97
		Too clayey	0.98			Too clayey	0.98
L144A:							
Chetomba	75	Fair		Poor		Poor	
		Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Water erosion	0.99	Low strength	0.22	Too clayey	0.98
				Shrink-swell	0.99		
Waldorf	13	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Depth to saturated zone	0.00
		Carbonate content	0.80	Depth to saturated zone	0.00	Too clayey	0.00
		Low content of organic matter	0.88	Shrink-swell	0.19		

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L144A:							
Webster----------	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Low strength	0.22	Too clayey	0.99
				Shrink-swell	0.95		
Okoboji, depressional-------	3	Fair		Poor		Poor	
		Too clayey	0.05	Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00	Too clayey	0.05
				Shrink-swell	0.12		
Prinsburg----------	3	Fair		Poor		Poor	
		Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Water erosion	0.99	Low strength	0.00	Too clayey	0.98
Okabena----------	1	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Carbonate content	0.97	Low strength	0.22	Carbonate content	0.97
		Water erosion	0.99				
L145A:							
Canisteo----------	80	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Low strength	0.22	Too clayey	0.98
Glencoe, depressional-------	10	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.22		
				Shrink-swell	0.97		
Webster----------	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Low strength	0.22	Too clayey	0.99
				Shrink-swell	0.95		
Prinsburg----------	4	Fair		Poor		Poor	
		Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Water erosion	0.99	Low strength	0.00	Too clayey	0.98
Crippin----------	1	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Carbonate content	0.97	Low strength	0.22		

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L146A:							
Glencoe, depressional	80	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.22		
				Shrink-swell	0.97		
Canisteo	10	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Low strength	0.22	Carbonate content	0.97
Harps	10	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.32	Low strength	0.22	Carbonate content	0.97
L150A:							
Prinsburg	75	Fair		Poor		Poor	
		Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Water erosion	0.99	Low strength	0.00	Too clayey	0.98
Chetomba	14	Fair		Poor		Poor	
		Too clayey	0.98	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Water erosion	0.99	Low strength	0.22	Too clayey	0.98
				Shrink-swell	0.99		
Webster	4	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Low strength	0.22	Too clayey	0.99
				Shrink-swell	0.95		
Canisteo	3	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Low strength	0.22	Too clayey	0.98
				Shrink-swell	0.99		
Okabena	2	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Carbonate content	0.97	Low strength	0.22	Carbonate content	0.97
		Water erosion	0.99				
Okoboji, depressional	2	Fair		Poor		Poor	
		Too clayey	0.05	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.00	Too clayey	0.05
				Shrink-swell	0.12		

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L151A:							
Glencoe, ponded-----	80	Good		Poor		Poor	
				Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.00		
				Shrink-swell	0.93		
Okoboji, ponded-----	14	Fair		Poor		Poor	
		Too clayey	0.08	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Water erosion	0.99	Low strength	0.00	Too clayey	0.08
				Shrink-swell	0.12		
Klossner, ponded----	6	Good		Poor		Poor	
				Depth to saturated zone	0.00	Content of organic matter	0.00
				Low strength	0.00	Depth to saturated zone	0.00
L152B:							
Lowlein----------	60	Fair		Fair		Fair	
		Low content of organic matter	0.12	Low strength	0.22	Depth to saturated zone	0.88
				Depth to saturated zone	0.88		
Round Lake----------	20	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too sandy	0.31
		Too sandy	0.31			Rock fragments	0.88
		Carbonate content	0.92				
Nicollet----------	12	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Too clayey	0.98	Low strength	0.22	Too clayey	0.98
				Shrink-swell	0.98		
Farrar----------	6	Fair		Fair		Good	
		Low content of organic matter	0.12	Low strength	0.22		
		Too acid	0.95				
		Water erosion	0.99				
Webster----------	2	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Low strength	0.22	Too clayey	0.99
				Shrink-swell	0.99		
L153A:							
Essexville----------	85	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Low strength	0.22		
Canisteo----------	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Low strength	0.22	Carbonate content	0.97

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L153A:							
Glencoe, depressional-------	4	Good		Poor		Poor	
				Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00		
				Shrink-swell	0.93		
Belleville----------	3	Fair		Poor		Poor	
		Too sandy	0.01	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Low content of organic matter	0.12	Low strength	0.22	Too sandy	0.01
Very poorly drained soils in depressions--------	2	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		
				Shrink-swell	0.95		
Somewhat poorly drained soils------	1	Poor		Fair		Fair	
		Wind erosion	0.00	Depth to saturated zone	0.06	Depth to saturated zone	0.06
		Low content of organic matter	0.12	Low strength	0.22		
		Too acid	0.95				
L154E:							
Belview----------	60	Fair		Fair		Poor	
		Low content of organic matter	0.12	Slope	0.02	Slope	0.00
		Carbonate content	0.97	Low strength	0.22	Carbonate content	0.97
Ridgeton----------	22	Good		Fair		Poor	
				Slope	0.08	Slope	0.00
				Low strength	0.22		
Omsrud----------	14	Fair		Fair		Poor	
		Low content of organic matter	0.12	Low strength	0.22	Slope	0.00
				Slope	0.92		
Delft----------	2	Good		Poor		Poor	
				Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.00		
				Shrink-swell	0.99		
Terril----------	2	Good		Fair		Good	
				Low strength	0.22		
L155A:							
Okoboji, ponded-----	85	Fair		Poor		Poor	
		Too clayey	0.08	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Water erosion	0.99	Shrink-swell	0.12	Too clayey	0.08

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L155A:							
Glencoe, ponded-----	10	Good		Poor		Poor	
				Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00		
				Shrink-swell	0.93		
Blue Earth, ponded--	3	Fair		Poor		Poor	
		Carbonate content	0.80	Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00	Content of organic matter	0.94
				Shrink-swell	0.95		
Klossner, ponded----	2	Good		Poor		Poor	
				Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00	Content of organic matter	0.00
L156C2:							
Omsrud, moderately eroded----------	44	Fair		Fair		Fair	
		Low content of organic matter	0.12	Low strength	0.22	Slope	0.96
		Carbonate content	0.97			Carbonate content	0.97
Storden, moderately eroded----------	24	Fair		Fair		Fair	
		Low content of organic matter	0.12	Low strength	0.22	Slope	0.96
		Carbonate content	0.97			Carbonate content	0.97
Pilot Grove---------	20	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
						Slope	0.96
Hawick----------	8	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.06			Rock fragments	0.03
		Low content of organic matter	0.12			Slope	0.96
						Hard to reclaim (rock fragments)	0.98
Delft----------	2	Good		Poor		Poor	
				Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.00		
				Shrink-swell	0.99		
Terril----------	2	Good		Fair		Good	
				Low strength	0.22		
L156D2:							
Omsrud, moderately eroded----------	50	Fair		Fair		Poor	
		Low content of organic matter	0.12	Low strength	0.22	Slope	0.00
		Carbonate content	0.97			Carbonate content	0.97

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
L156D2:							
Storden, moderately eroded	25	Fair		Fair		Poor	
		Low content of organic matter	0.12	Low strength	0.22	Slope	0.00
		Carbonate content	0.97			Carbonate content	0.97
Pilot Grove	15	Poor		Good		Poor	
		Too sandy	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Too sandy	0.00
						Slope	0.00
Hawick	4	Poor		Good		Poor	
		Too sandy	0.00			Slope	0.00
		Droughty	0.06			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.03
						Hard to reclaim (rock fragments)	0.98
Ridgeton	2	Good		Fair		Fair	
				Low strength	0.22	Slope	0.37
Delft	2	Good		Poor		Poor	
				Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.00		
				Shrink-swell	0.99		
Terril	2	Good		Fair		Good	
				Low strength	0.22		
L157A:							
Lowlein	78	Fair		Fair		Fair	
		Low content of organic matter	0.12	Low strength	0.22	Depth to saturated zone	0.88
				Depth to saturated zone	0.88		
Nicollet	14	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Too clayey	0.98	Low strength	0.22	Too clayey	0.98
				Shrink-swell	0.98		
Round Lake	4	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too sandy	0.31
						Rock fragments	0.88
		Too sandy	0.31				
		Carbonate content	0.92				
Webster	2	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Low strength	0.22	Too clayey	0.99
				Shrink-swell	0.99		
Farrar	2	Fair		Fair		Good	
		Low content of organic matter	0.12	Low strength	0.22		
		Too acid	0.95				
		Water erosion	0.99				

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L158B:							
Round Lake----------	80	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too sandy	0.31
		Too sandy	0.31			Rock fragments	0.88
		Carbonate content	0.92				
Lowlein----------	13	Fair		Fair		Fair	
		Low content of organic matter	0.12	Low strength	0.22	Depth to saturated zone	0.88
				Depth to saturated zone	0.88		
Ocheyedan----------	3	Fair		Good		Good	
		Low content of organic matter	0.12				
		Water erosion	0.90				
Estherville---------	2	Poor		Good		Poor	
		Too sandy	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Too sandy	0.00
		Droughty	0.30			Hard to reclaim (rock fragments)	0.82
Webster----------	2	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Low strength	0.22	Too clayey	0.99
				Shrink-swell	0.99		
L159A:							
Knoke, depressional	85	Fair		Poor		Poor	
		Too clayey	0.02	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Low strength	0.00	Too clayey	0.02
		Water erosion	0.99	Shrink-swell	0.12	Carbonate content	0.97
Okoboji, depressional-------	5	Fair		Poor		Poor	
		Too clayey	0.05	Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00	Too clayey	0.05
				Shrink-swell	0.12		
Essexville----------	4	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Low strength	0.22		
Canisteo----------	3	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Low strength	0.22	Carbonate content	0.97
Canisteo, depressional-------	3	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.22		
				Shrink-swell	0.99		

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L160B:							
Dickinson, loamy substratum	85	Fair		Good		Good	
		Low content of organic matter	0.12				
		Too acid	0.84				
Farrar	8	Fair		Fair		Good	
		Low content of organic matter	0.12	Low strength	0.22		
		Too acid	0.95				
		Water erosion	0.99				
Lowlein	7	Fair		Fair		Fair	
		Low content of organic matter	0.12	Low strength	0.22	Depth to saturated zone	0.88
				Depth to saturated zone	0.88		
L161C:							
Estherville	38	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
		Droughty	0.30			Hard to reclaim (rock fragments)	0.82
						Slope	0.96
Pilot Grove	38	Poor		Poor		Poor	
		Too sandy	0.00	Low strength	0.00	Rock fragments	0.00
		Low content of organic matter	0.12			Too sandy	0.00
						Slope	0.96
Well drained soils	15	Fair		Good		Fair	
		Low content of organic matter	0.12			Slope	0.96
		Water erosion	0.90				
Hawick	5	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.06			Rock fragments	0.03
		Low content of organic matter	0.12			Slope	0.96
						Hard to reclaim (rock fragments)	0.98
Delft	2	Good		Poor		Poor	
				Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00		
				Shrink-swell	0.99		
Terril	2	Good		Fair		Good	
				Low strength	0.22		
L162B:							
Clarion	45	Fair		Fair		Good	
		Low content of organic matter	0.12	Low strength	0.22		
		Carbonate content	0.97				
		Water erosion	0.99				

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L162B:							
Round Lake----------	30	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too sandy	0.31
		Too sandy	0.31			Rock fragments	0.88
		Carbonate content	0.92				
Estherville---------	8	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
		Droughty	0.30			Hard to reclaim (rock fragments)	0.82
Lowlein----------	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Low strength	0.22	Depth to saturated zone	0.88
				Depth to saturated zone	0.88		
Nicollet----------	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Too clayey	0.98	Low strength	0.22	Too clayey	0.98
				Shrink-swell	0.98		
Swanlake----------	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Low strength	0.22	Carbonate content	0.97
		Carbonate content	0.97				
Webster----------	2	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Low strength	0.22	Too clayey	0.99
				Shrink-swell	0.99		
L163A:							
Okoboji, depressional-------	92	Fair		Poor		Poor	
		Too clayey	0.05	Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00	Too clayey	0.05
				Shrink-swell	0.12		
Canisteo----------	2	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Low strength	0.22	Too clayey	0.98
Harpster----------	2	Fair		Poor		Poor	
		Carbonate content	0.46	Low strength	0.00	Depth to saturated zone	0.00
		Low content of organic matter	0.88	Depth to saturated zone	0.00	Carbonate content	0.80
				Shrink-swell	0.87		
Knoke, depressional	2	Fair		Poor		Poor	
		Too clayey	0.02	Low strength	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Depth to saturated zone	0.00	Too clayey	0.02
		Water erosion	0.99	Shrink-swell	0.12	Carbonate content	0.97

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
L163A:							
Prinsburg----------	2	Fair		Poor		Poor	
		Too clayey	0.98	Low strength	0.00	Depth to saturated zone	0.00
		Water erosion	0.99	Depth to saturated zone	0.00	Too clayey	0.98
L170B:							
Estherville---------	50	Poor		Good		Poor	
		Too sandy	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Too sandy	0.00
		Droughty	0.30			Hard to reclaim (rock fragments)	0.82
Round Lake----------	45	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Too sandy	0.31
		Too sandy	0.31			Rock fragments	0.88
		Carbonate content	0.92				
Lowlein----------	3	Fair		Fair		Fair	
		Low content of organic matter	0.12	Low strength	0.22	Depth to saturated zone	0.88
				Depth to saturated zone	0.88		
Poorly drained soils	2	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99			Too clayey	0.99
M-W:							
Water, miscellaneous	100	Not rated		Not rated		Not rated	
P1B:							
Annieville----------	80	Fair		Poor		Fair	
		Low content of organic matter	0.88	Low strength	0.00	Too clayey	0.70
		Water erosion	0.90	Shrink-swell	0.94		
		Too clayey	0.98				
McCreath----------	10	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.12
		Water erosion	0.90	Depth to saturated zone	0.12	Too clayey	0.70
		Too clayey	0.98	Shrink-swell	0.98		
Galva----------	5	Fair		Poor		Good	
		Low content of organic matter	0.88	Low strength	0.00		
		Water erosion	0.90				
Primghar----------	5	Fair		Poor		Fair	
		Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.12
		Water erosion	0.90	Depth to saturated zone	0.12	Too clayey	0.98
		Too clayey	0.98	Shrink-swell	0.88		

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
P2A:							
McCreath	80	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.12
		Water erosion	0.90	Depth to saturated zone	0.12	Too clayey	0.70
		Too clayey	0.98	Shrink-swell	0.98		
Gillett Grove	10	Fair		Poor		Poor	
		Too clayey	0.88	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	0.63
		Water erosion	0.90	Shrink-swell	0.88		
Annieville	5	Fair		Poor		Fair	
		Low content of organic matter	0.88	Low strength	0.00	Too clayey	0.70
		Water erosion	0.90	Shrink-swell	0.94		
		Too clayey	0.98				
Primghar	5	Fair		Poor		Fair	
		Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.12
		Water erosion	0.90	Depth to saturated zone	0.12	Too clayey	0.98
		Too clayey	0.98	Shrink-swell	0.88		
P3A:							
Biscay, occasionally flooded	85	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97				
Cylinder, occasionally flooded	10	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.06	Depth to saturated zone	0.06
Talcot, occasionally flooded	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.88			Too clayey	0.88
		Carbonate content	0.97			Carbonate content	0.97
P7A:							
Comfrey, occasionally flooded	80	Fair		Poor		Poor	
		Too clayey	0.95	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Shrink-swell	0.97	Too clayey	0.95
Colo, occasionally flooded	5	Good		Poor		Poor	
				Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Shrink-swell	0.88		

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
P7A:							
Havelock, occasionally flooded	5	Fair		Poor		Poor	
		Carbonate content	0.97	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Shrink-swell	0.95	Carbonate content	0.97
						Too clayey	0.98
Havelock, frequently flooded	5	Fair		Poor		Poor	
		Carbonate content	0.97	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Shrink-swell	0.95	Carbonate content	0.97
						Too clayey	0.98
Spillco, occasionally flooded	5	Good		Fair		Fair	
				Depth to saturated zone	0.88	Depth to saturated zone	0.88
P9A:							
Gillett Grove	85	Fair		Poor		Poor	
		Too clayey	0.88	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	0.63
		Water erosion	0.90	Shrink-swell	0.88		
McCreath	10	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.12
		Water erosion	0.90	Depth to saturated zone	0.12	Too clayey	0.70
		Too clayey	0.98	Shrink-swell	0.98		
Afton, frequently flooded	5	Fair		Poor		Poor	
		Water erosion	0.90	Low strength	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Depth to saturated zone	0.00	Too clayey	0.98
				Shrink-swell	0.90		
P12B:							
Everly	80	Fair		Fair		Good	
		Low content of organic matter	0.12	Shrink-swell	0.99		
Sac	10	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.88	Too clayey	0.70
		Water erosion	0.90	Shrink-swell	0.97	Depth to saturated zone	0.88
		Too clayey	0.98				
Ransom	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Water erosion	0.90	Shrink-swell	0.96	Too clayey	0.70
		Too clayey	0.98				

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
P12B:							
Wilmonton	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Too clayey	0.98	Shrink-swell	0.99	Too clayey	0.98
P12C2:							
Everly, moderately eroded	80	Fair		Fair		Fair	
		Low content of organic matter	0.12	Shrink-swell	0.99	Slope	0.96
Everly	10	Fair		Fair		Good	
		Low content of organic matter	0.12	Shrink-swell	0.99		
Moneta	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Shrink-swell	0.99	Slope	0.37
Wilmonton	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Too clayey	0.98	Shrink-swell	0.99	Too clayey	0.98
P15B:							
Galva	80	Fair		Good		Good	
		Low content of organic matter	0.88				
		Water erosion	0.90				
Primghar	10	Fair		Fair		Fair	
		Low content of organic matter	0.88	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Water erosion	0.90	Shrink-swell	0.88	Too clayey	0.98
		Too clayey	0.98				
Annieville	5	Fair		Fair		Fair	
		Low content of organic matter	0.88	Shrink-swell	0.94	Too clayey	0.70
		Water erosion	0.90				
		Too clayey	0.98				
Sac	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.88	Too clayey	0.70
		Water erosion	0.90	Shrink-swell	0.97	Depth to saturated zone	0.88
		Too clayey	0.98				
P20B:							
Judson	80	Good		Good		Good	
Primghar	10	Fair		Fair		Fair	
		Low content of organic matter	0.88	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Water erosion	0.90	Shrink-swell	0.88	Too clayey	0.98
		Too clayey	0.98				

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
P20B:							
Galva----------	5	Fair		Good		Good	
		Low content of organic matter	0.88				
		Water erosion	0.90				
Whitewood, overwash	5	Fair		Fair		Fair	
		Too clayey	0.98	Depth to saturated zone	0.12	Depth to saturated zone	0.12
				Shrink-swell	0.88	Too clayey	0.98
P21A:							
Marcus----------	80	Fair		Poor		Poor	
		Too clayey	0.88	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Low content of organic matter	0.88	Shrink-swell	0.88	Too clayey	0.63
		Water erosion	0.90				
Whitewood, frequently flooded	10	Fair		Poor		Poor	
		Water erosion	0.90	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Shrink-swell	0.91	Too clayey	0.98
Primghar----------	5	Fair		Fair		Fair	
		Low content of organic matter	0.88	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Water erosion	0.90	Shrink-swell	0.88	Too clayey	0.98
		Too clayey	0.98				
Spicer----------	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Shrink-swell	0.98	Carbonate content	0.97
		Water erosion	0.99				
P27A:							
Primghar----------	80	Fair		Fair		Fair	
		Low content of organic matter	0.88	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Water erosion	0.90	Shrink-swell	0.88	Too clayey	0.98
		Too clayey	0.98				
Galva----------	8	Fair		Good		Good	
		Low content of organic matter	0.88				
		Water erosion	0.90				
Marcus----------	8	Fair		Poor		Poor	
		Low content of organic matter	0.88	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.88	Shrink-swell	0.88	Too clayey	0.63
		Water erosion	0.90				
Judson----------	4	Fair		Good		Good	
		Low content of organic matter	0.12				
		Water erosion	0.90				

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
P28A:							
Ransom	80	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Water erosion	0.90	Shrink-swell	0.96	Too clayey	0.70
		Too clayey	0.98				
Rushmore	8	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.82	Shrink-swell	0.97	Too clayey	0.82
		Water erosion	0.99				
Sac	8	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.88	Too clayey	0.70
		Water erosion	0.90	Shrink-swell	0.97	Depth to saturated zone	0.88
		Too clayey	0.98				
Primghar	4	Fair		Fair		Fair	
		Low content of organic matter	0.88	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Water erosion	0.90	Shrink-swell	0.88	Too clayey	0.98
		Too clayey	0.98				
P29A:							
Rushmore	80	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.82	Shrink-swell	0.97	Too clayey	0.82
		Water erosion	0.99				
Ransom	10	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Water erosion	0.90	Shrink-swell	0.96	Too clayey	0.70
		Too clayey	0.98				
Whitewood, frequently flooded	10	Fair		Poor		Poor	
		Water erosion	0.90	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Shrink-swell	0.91	Too clayey	0.98
P30B:							
Sac	80	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.88	Too clayey	0.70
		Water erosion	0.90	Shrink-swell	0.97	Depth to saturated zone	0.88
		Too clayey	0.98				
Annieville	10	Fair		Fair		Fair	
		Low content of organic matter	0.88	Shrink-swell	0.94	Too clayey	0.70
		Water erosion	0.90				
		Too clayey	0.98				

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
P30B:							
Primghar	5	Fair		Fair		Fair	
		Low content of organic matter	0.88	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Water erosion	0.90	Shrink-swell	0.88	Too clayey	0.98
		Too clayey	0.98				
Ransom	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Water erosion	0.90	Shrink-swell	0.96	Too clayey	0.70
		Too clayey	0.98				
P31A:							
Spicer	85	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97	Shrink-swell	0.98	Carbonate content	0.97
		Water erosion	0.99				
Marcus	10	Fair		Poor		Poor	
		Low content of organic matter	0.88	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.88	Shrink-swell	0.88	Too clayey	0.63
		Water erosion	0.90				
Whitewood	5	Fair		Poor		Poor	
		Water erosion	0.90	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Shrink-swell	0.91	Too clayey	0.98
P33A:							
Spillco, occasionally flooded	85	Good		Fair		Fair	
				Depth to saturated zone	0.88	Depth to saturated zone	0.88
Spillco, frequently flooded	10	Good		Fair		Fair	
				Depth to saturated zone	0.88	Depth to saturated zone	0.88
Comfrey, occasionally flooded	5	Fair		Poor		Poor	
		Too clayey	0.95	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Shrink-swell	0.97	Too clayey	0.95
P36A:							
Talcot, occasionally flooded	85	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.88			Too clayey	0.88
		Carbonate content	0.97			Carbonate content	0.97

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
P36A:							
Biscay, occasionally flooded	10	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97				
Cylinder, occasionally flooded	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.06	Depth to saturated zone	0.06
P37D:							
Talmo	90	Poor		Fair		Poor	
		Droughty	0.00	Slope	0.32	Hard to reclaim (rock fragments)	0.00
		Too sandy	0.00			Slope	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
						Too sandy	0.00
Kanaranzi	5	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
		Water erosion	0.90			Hard to reclaim (rock fragments)	0.00
						Slope	0.96
Thurman	5	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Slope	0.96
		Droughty	0.67			Rock fragments	0.97
		Too acid	0.99				
P38B:							
Thurman	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.97
		Droughty	0.59				
		Too acid	0.99				
Henkin	10	Fair		Good		Good	
		Low content of organic matter	0.12				
P38C:							
Thurman	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Slope	0.96
		Droughty	0.67			Rock fragments	0.97
		Too acid	0.99				
Henkin	10	Fair		Good		Good	
		Low content of organic matter	0.12				

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
P43A:							
Wilmonton----------	85	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Too clayey	0.98	Shrink-swell	0.99	Too clayey	0.98
Everly----------	5	Fair		Fair		Good	
		Low content of organic matter	0.12	Shrink-swell	0.99		
Ransom----------	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Water erosion	0.90	Shrink-swell	0.96	Too clayey	0.70
		Too clayey	0.98				
Rushmore----------	5	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.82	Shrink-swell	0.97	Too clayey	0.82
		Water erosion	0.99				
P45E:							
Moneta----------	85	Fair		Fair		Poor	
		Low content of organic matter	0.12	Slope	0.50	Slope	0.00
				Shrink-swell	0.99		
Judson----------	10	Good		Good		Good	
Soils that are moderately deep to carbonates---------	5	Fair		Fair		Poor	
		Low content of organic matter	0.12	Slope	0.50	Slope	0.00
				Shrink-swell	0.99		
P48A:							
Allendorf----------	85	Fair		Good		Poor	
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
Kanaranzi----------	5	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.00
		Water erosion	0.90				
Moderately well drained soils------	5	Fair		Fair		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.88	Hard to reclaim (rock fragments)	0.00
						Depth to saturated zone	0.88
Sac----------	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.88	Too clayey	0.70
		Water erosion	0.90	Shrink-swell	0.97	Depth to saturated zone	0.88
		Too clayey	0.98				

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
P48B:							
Allendorf	85	Fair		Good		Poor	
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
Kanaranzi	5	Poor		Good		Poor	
		Too sandy	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
		Water erosion	0.90			Too sandy	0.00
Moderately well drained soils	5	Fair		Fair		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.88	Hard to reclaim (rock fragments)	0.00
						Depth to saturated zone	0.88
Sac	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.88	Too clayey	0.70
		Water erosion	0.90	Shrink-swell	0.97	Depth to saturated zone	0.88
		Too clayey	0.98				
P49A:							
Comfrey, frequently flooded	85	Fair		Poor		Poor	
		Too clayey	0.95	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.00	Too clayey	0.95
				Shrink-swell	0.93		
Comfrey, occasionally flooded	5	Fair		Poor		Poor	
		Too clayey	0.95	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Low strength	0.00	Too clayey	0.95
				Shrink-swell	0.97		
Havelock, frequently flooded	5	Fair		Poor		Poor	
		Carbonate content	0.97	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Low strength	0.00	Carbonate content	0.97
				Shrink-swell	0.95	Too clayey	0.98
Spillco, occasionally flooded	5	Good		Poor		Fair	
				Low strength	0.00	Depth to saturated zone	0.88
				Depth to saturated zone	0.88		
P50B:							
Everly	60	Fair		Poor		Good	
		Low content of organic matter	0.12	Low strength	0.00		
				Shrink-swell	0.99		

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
P50B:							
Kanaranzi	25	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
		Water erosion	0.90			Rock fragments	0.00
		Droughty	0.96				
Wilmonton	10	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.12
		Too clayey	0.98	Depth to saturated zone	0.12	Too clayey	0.98
				Shrink-swell	0.99		
Ransom	5	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.12
		Water erosion	0.90	Depth to saturated zone	0.12	Too clayey	0.70
		Too clayey	0.98	Shrink-swell	0.96		
P51C2:							
Everly, moderately eroded	40	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Slope	0.96
				Shrink-swell	0.98		
Moneta, moderately eroded	20	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Slope	0.37
				Shrink-swell	0.99		
Talmo, moderately eroded	20	Poor		Good		Poor	
		Droughty	0.00			Too sandy	0.00
		Too sandy	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
						Slope	0.96
Everly	10	Fair		Fair		Good	
		Low content of organic matter	0.12	Shrink-swell	0.99		
Kanaranzi	5	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
		Water erosion	0.90			Rock fragments	0.00
						Slope	0.96
Wilmonton	5	Fair		Poor		Fair	
		Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.12
		Too clayey	0.98	Depth to saturated zone	0.12	Too clayey	0.98
				Shrink-swell	0.99		

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
P52D2:							
Moneta, moderately eroded	40	Fair		Fair		Poor	
		Low content of organic matter	0.12	Slope	0.98	Slope	0.00
				Shrink-swell	0.99		
Everly, moderately eroded	20	Fair		Fair		Fair	
		Low content of organic matter	0.12	Shrink-swell	0.99	Slope	0.04
Talmo, moderately eroded	20	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Droughty	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
						Slope	0.00
Everly	10	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.88	Depth to saturated zone	0.88
				Shrink-swell	0.99		
Kanaranzi	5	Poor		Good		Poor	
		Too sandy	0.00			Rock fragments	0.00
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
		Water erosion	0.90			Too sandy	0.00
						Slope	0.96
Wilmonton	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Too clayey	0.98	Shrink-swell	0.99	Too clayey	0.98
P53C2:							
Everly, moderately eroded	55	Fair		Fair		Fair	
		Low content of organic matter	0.12	Shrink-swell	0.99	Slope	0.96
Moneta, moderately eroded	25	Fair		Fair		Fair	
		Low content of organic matter	0.12	Shrink-swell	0.99	Slope	0.37
Everly	10	Fair		Fair		Good	
		Low content of organic matter	0.12	Shrink-swell	0.99		
Wilmonton	10	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Too clayey	0.98	Shrink-swell	0.99	Too clayey	0.98

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
P54D2:							
Moneta, moderately eroded	45	Fair		Fair		Poor	
		Low content of organic matter	0.12	Slope	0.98	Slope	0.00
				Shrink-swell	0.99		
Everly, moderately eroded	40	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.88	Slope	0.04
						Depth to saturated zone	0.88
				Shrink-swell	0.99		
Everly	10	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.88	Depth to saturated zone	0.88
				Shrink-swell	0.99		
Wilmonton	5	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.12	Depth to saturated zone	0.12
		Too clayey	0.98	Shrink-swell	0.99	Too clayey	0.98
P55A:							
Kato	90	Fair		Poor		Poor	
		Low content of organic matter	0.12	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Carbonate content	0.97				
Somewhat poorly drained soils	10	Fair		Fair		Fair	
		Low content of organic matter	0.12	Depth to saturated zone	0.06	Depth to saturated zone	0.06
		Carbonate content	0.97				
P56A:							
Kanaranzi	80	Poor		Good		Poor	
		Too sandy	0.00			Hard to reclaim (rock fragments)	0.00
		Low content of organic matter	0.12			Too sandy	0.00
		Water erosion	0.90			Rock fragments	0.00
Allendorf	10	Fair		Good		Poor	
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
Moderately well drained soils	10	Poor		Fair		Poor	
		Too sandy	0.00	Depth to saturated zone	0.88	Too sandy	0.00
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
		Water erosion	0.90			Rock fragments	0.00
						Depth to saturated zone	0.88
P56B:							
Kanaranzi	80	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
		Water erosion	0.90			Rock fragments	0.00

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material: Rating class and limiting features	Value	Potential as source of roadfill: Rating class and limiting features	Value	Potential as source of topsoil: Rating class and limiting features	Value
P56B:							
Allendorf	14	Fair		Good		Poor	
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
Talmo	6	Poor		Good		Poor	
		Too sandy	0.00			Rock fragments	0.00
		Droughty	0.00			Too sandy	0.00
		Low content of organic matter	0.12			Hard to reclaim (rock fragments)	0.00
U3B:							
Udorthents (cut and fill land)	100	Not rated		Not rated		Not rated	
U7:							
Udorthents, shallow, sanitary landfill	100	Not rated		Not rated		Not rated	
U15A:							
Havelock, frequently flooded	80	Fair		Poor		Poor	
		Carbonate content	0.97	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Shrink-swell	0.95	Carbonate content	0.97
						Too clayey	0.98
Havelock, occasionally flooded	10	Fair		Poor		Poor	
		Carbonate content	0.97	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Shrink-swell	0.95	Carbonate content	0.97
						Too clayey	0.98
Calco, frequently flooded	5	Fair		Poor		Poor	
		Carbonate content	0.97	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Shrink-swell	0.87	Carbonate content	0.97
						Too clayey	0.99
Spillco, frequently flooded	5	Good		Fair		Fair	
				Depth to saturated zone	0.88	Depth to saturated zone	0.88
U24A:							
Havelock, occasionally flooded	80	Fair		Poor		Poor	
		Carbonate content	0.97	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Shrink-swell	0.95	Carbonate content	0.97
						Too clayey	0.98

Table 14b.--Construction Materials--Continued

Map symbol and component name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
U24A:							
Havelock, frequently flooded	10	Fair		Poor		Poor	
		Carbonate content	0.97	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.98	Shrink-swell	0.95	Carbonate content	0.97
						Too clayey	0.98
Spillco, occasionally flooded	5	Good		Fair		Fair	
				Depth to saturated zone	0.88	Depth to saturated zone	0.88
Comfrey, occasionally flooded	3	Fair		Poor		Poor	
		Too clayey	0.95	Depth to saturated zone	0.00	Depth to saturated zone	0.00
				Shrink-swell	0.97	Too clayey	0.95
Calco, occasionally flooded	2	Fair		Poor		Poor	
		Carbonate content	0.97	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Too clayey	0.99	Shrink-swell	0.87	Carbonate content	0.97
						Too clayey	0.99
W:							
Water	100	Not rated		Not rated		Not rated	

Table 15.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and component name	Pct. of map unit	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
GP:							
Pits, gravel--------	80	Not rated		Not rated		Not rated	
Udipsamments--------	20	Not rated		Not rated		Not rated	
L5A:							
Delft, overwash-----	45	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.24		
Delft----------	35	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.10		
Delft, frequently flooded----------	7	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.18		
Terril----------	6	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Piping	0.27	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.28
						Cutbanks cave	0.10
Glencoe, depressional-------	4	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Ponding	1.00		
				Piping	0.01		
Poorly drained soils	3	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.04		
L6A:							
Biscay----------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.08		
Biscay, depressional	8	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Seepage	0.08		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L6A:							
Mayer	5	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.58	Very limited Cutbanks cave	1.00
Cylinder	2	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.10	Very limited Cutbanks cave	1.00
L78A:							
Canisteo	65	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.30	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Crippin	10	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.34	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Glencoe, depressional	10	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Canisteo, depressional	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.15	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Harps	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.28	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Webster	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.11	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
L79B:							
Clarion	70	Somewhat limited Seepage	0.70	Somewhat limited Piping Depth to saturated zone	0.36 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.30 0.10
Clarion, moderately eroded	15	Somewhat limited Seepage	0.70	Somewhat limited Piping Depth to saturated zone	0.29 0.05	Somewhat limited Depth to water Slow refill Cutbanks cave	0.60 0.30 0.10

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L79B:							
Nicollet----------	8	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.04		
Ocheyedan----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.84	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10
Webster----------	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.11		
L83A:							
Webster----------	65	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.11		
Glencoe, depressional-------	14	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Ponding	1.00		
				Piping	0.01		
Canisteo----------	8	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.23		
Nicollet----------	8	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.04		
Poorly drained soils	5	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	0.88		
				Seepage	0.69		
L85A:							
Nicollet----------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.11		
Clarion----------	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.86	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10
Webster----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.17		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L88A:							
Lura, depressional--	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.01	Depth to saturated zone	1.00	Slow refill	0.99
						Cutbanks cave	0.10
				Ponding	1.00		
				Hard to pack	0.94		
Brownton----------	7	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Depressional soils that have an organic surface layer----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Ponding	1.00		
				Hard to pack	0.07		
Prinsburg----------	3	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.06		
L96B:							
Estherville---------	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	No ground water	1.00
Hawick----------	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.50	No ground water	1.00
Biscay----------	2	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.47		
Tomall----------	8	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Cutbanks cave	1.00
				Depth to saturated zone	0.05	Depth to water	0.60
L97C:							
Hawick----------	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.50	No ground water	1.00
Estherville---------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	No ground water	1.00
Tomall----------	10	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Cutbanks cave	1.00
				Depth to saturated zone	0.05	Depth to water	0.60
L98A:							
Crippin----------	50	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.34		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L98A:							
Nicollet----------	40	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.04		
Canisteo----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.30		
Clarion----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.36	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10
L102C2:							
Omsrud, moderately eroded----------	45	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.45	No ground water	1.00
Storden, moderately eroded----------	24	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.61	No ground water	1.00
Omsrud----------	14	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.49	No ground water	1.00
Terril----------	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Piping	0.27	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.28
						Cutbanks cave	0.10
Delft----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.07		
Crooksford----------	2	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	0.87	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.27	Depth to water	0.06
L102D2:							
Omsrud, moderately eroded----------	45	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.45	No ground water	1.00
		Slope	0.03				
Storden, moderately eroded----------	20	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.61	No ground water	1.00
		Slope	0.03				
Omsrud----------	14	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.49	No ground water	1.00
		Slope	0.03				

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L102D2:							
Ridgeton	9	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.32	No ground water	1.00
		Slope	0.01				
Delft	6	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.07		
Terril	6	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Piping	0.27	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.28
						Cutbanks cave	0.10
L107A:							
Canisteo	50	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.30		
Glencoe, depressional	35	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Ponding	1.00		
				Piping	0.01		
Harps	10	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.28		
Canisteo, depressional	3	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Ponding	1.00		
				Piping	0.15		
Crippin	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.34		
L111A:							
Nicollet	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.16		
Okabena	14	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.05		
Clarion	4	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.36	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L111A:							
Webster	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.05		
L112A:							
Webster	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.05		
Chetomba	10	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.05		
Glencoe, depressional	6	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Ponding	1.00		
				Piping	0.09		
Canisteo	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.01		
Nicollet	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.16		
L126A:							
Coland, occasionally flooded	80	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.07		
				Seepage	0.04		
Minneopa, occasionally flooded	10	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.87	Cutbanks cave	1.00
						Depth to water	0.06
				Seepage	0.10		
Havelock, occasionally flooded	5	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.09		
				Seepage	0.01		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L126A:							
Spillville, occasionally flooded	5	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.58		
L127A:							
Coland, frequently flooded	80	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.75		
Minneopa, occasionally flooded	10	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.87	Cutbanks cave	1.00
						Depth to water	0.06
				Seepage	0.57		
Havelock, frequently flooded	5	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.20		
				Seepage	0.01		
Spillville, occasionally flooded	5	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.58		
L129B:							
Terril	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Piping	0.27	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.28
						Cutbanks cave	0.10
Clarion	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.36	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10
Delft	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.07		
L130A:							
Okoboji mucky silty clay loam, depressional	75	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Ponding	1.00		
				Hard to pack	0.05		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L130A:							
Okoboji silty clay loam, depressional	15	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone	1.00	Slow refill	0.95
						Cutbanks cave	0.10
				Ponding	1.00		
				Hard to pack	0.23		
Brownton----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Spicer----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.02		
L133A:							
Waldorf----------	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.02	Depth to saturated zone	1.00	Slow refill	0.98
						Cutbanks cave	0.10
				Hard to pack	0.38		
Marna----------	9	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Chetomba----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.05		
Brownton----------	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Lura, depressional--	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.01	Depth to saturated zone	1.00	Slow refill	0.99
						Cutbanks cave	0.10
				Ponding	1.00		
				Hard to pack	0.94		
Barbert----------	1	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Ponding	1.00		
				Hard to pack	0.17		
Ocheda----------	1	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
L134B:							
Clarion----------	56	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.36	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L134B:							
Crooksford----------	15	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	0.87	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.27	Depth to water	0.06
Clarion, moderately eroded----------	14	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.29	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10
Nicollet----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.16		
Swanlake----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.61	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10
Terril----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Piping	0.27	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.28
						Cutbanks cave	0.10
L135A:							
Okabena----------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.05		
Kingston----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.07		
Nicollet----------	4	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.16		
Chetomba----------	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.05		
Ocheda----------	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Waldorf----------	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.02	Depth to saturated zone	1.00	Slow refill	0.98
						Cutbanks cave	0.10
				Hard to pack	0.38		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L136A:							
Crooksford----------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	0.87	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.27	Depth to water	0.06
Nicollet----------	8	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.16		
Clarion----------	7	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.36	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10
Okabena----------	3	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.05		
Webster----------	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.05		
L137A:							
Cylinder----------	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.10		
Biscay----------	4	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.47		
Wadena----------	4	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.88	No ground water	1.00
Linder----------	2	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.17		
L138B:							
Estherville---------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	No ground water	1.00
Wadena----------	7	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.88	No ground water	1.00
Hawick----------	5	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.50	No ground water	1.00
Cylinder----------	3	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.10		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L139A:							
Wadena	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.88	Very limited No ground water	1.00
Estherville	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.69	Very limited No ground water	1.00
Kanaranzi	5	Very limited Seepage	1.00	Somewhat limited Seepage	0.54	Very limited No ground water	1.00
Cylinder	3	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.10	Very limited Cutbanks cave	1.00
Dickinson	2	Very limited Seepage	1.00	Somewhat limited Seepage	0.07	Very limited No ground water	1.00
L139B:							
Wadena	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited No ground water	1.00
Estherville	7	Very limited Seepage	1.00	Somewhat limited Seepage	0.69	Very limited No ground water	1.00
Cylinder	3	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.10	Very limited Cutbanks cave	1.00
Dickinson	3	Very limited Seepage	1.00	Somewhat limited Seepage	0.07	Very limited No ground water	1.00
Biscay	2	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.47	Very limited Cutbanks cave	1.00
L140A:							
Ocheda	85	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Guckeen	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Collinwood	3	Somewhat limited Seepage	0.01	Very limited Depth to saturated zone Hard to pack	1.00 0.45	Somewhat limited Slow refill Cutbanks cave	0.99 0.10
Nicollet	3	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.16	Somewhat limited Slow refill Cutbanks cave	0.28 0.10

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L140A:							
Clarion----------	2	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.36	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10
Marna----------	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
L141A:							
Spillville, occasionally flooded----------	86	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.58		
Coland, occasionally flooded----------	8	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.07		
				Seepage	0.04		
Hanlon, occasionally flooded----------	4	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.87	Cutbanks cave	1.00
						Depth to water	0.06
				Seepage	0.06		
Havelock, occasionally flooded----------	2	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.09		
				Seepage	0.01		
L144A:							
Chetomba----------	75	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.05		
Waldorf----------	13	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.02	Depth to saturated zone	1.00	Slow refill	0.98
						Cutbanks cave	0.10
				Hard to pack	0.38		
Webster----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.05		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L144A:							
Okoboji, depressional	3	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone	1.00	Slow refill	0.95
						Cutbanks cave	0.10
				Ponding	1.00		
				Hard to pack	0.18		
Prinsburg	3	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.06		
Okabena	1	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.16		
L145A:							
Canisteo	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.01		
Glencoe, depressional	10	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Ponding	1.00		
				Piping	0.09		
Webster	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.05		
Prinsburg	4	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.06		
Crippin	1	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.34		
L146A:							
Glencoe, depressional	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Ponding	1.00		
				Piping	0.09		
Canisteo	10	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.30		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L146A:							
Harps	10	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.28		
L150A:							
Prinsburg	75	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.06		
Chetomba	14	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.05		
Webster	4	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.05		
Canisteo	3	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.11		
Okabena	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.16		
Okoboji, depressional	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone	1.00	Slow refill	0.95
						Cutbanks cave	0.10
				Ponding	1.00		
				Hard to pack	0.18		
L151A:							
Glencoe, ponded	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Content of organic matter	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Ponding	1.00		
				Depth to saturated zone	1.00		
Okoboji, ponded	14	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Hard to pack	0.20		
Klossner, ponded	6	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Piping	0.99		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L152B:							
Lowlein	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.87	Cutbanks cave	1.00
						Depth to water	0.06
Round Lake	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	Cutbanks cave	1.00
				Depth to saturated zone	0.05	Depth to water	0.60
Nicollet	12	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.04		
Farrar	6	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Piping	0.92	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10
Webster	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.07		
L153A:							
Essexville	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	0.95		
				Seepage	0.36		
Canisteo	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.30		
Glencoe, depressional	4	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Ponding	1.00		
				Piping	0.01		
Belleville	3	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	0.88		
Very poorly drained soils in depressions	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Ponding	1.00		
				Piping	0.20		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L153A:							
Somewhat poorly drained soils------	1	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.08		
L154E:							
Belview----------	60	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.63	No ground water	1.00
		Slope	0.24				
Ridgeton----------	22	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.52	No ground water	1.00
		Slope	0.21				
Omsrud----------	14	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.41	No ground water	1.00
		Slope	0.06				
Delft----------	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.07		
Terril----------	2	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Piping	0.33	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.28
						Cutbanks cave	0.10
L155A:							
Okoboji, ponded-----	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Ponding	1.00	Slow refill	0.30
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Hard to pack	0.20		
Glencoe, ponded-----	10	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Content of organic matter	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Ponding	1.00		
				Depth to saturated zone	1.00		
Blue Earth, ponded--	3	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Content of organic matter	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Ponding	1.00		
				Depth to saturated zone	1.00		
Klossner, ponded----	2	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Piping	0.99		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L156C2:							
Omsrud, moderately eroded	44	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.45	No ground water	1.00
Storden, moderately eroded	24	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.61	No ground water	1.00
Pilot Grove	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	No ground water	1.00
Hawick	8	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.50	No ground water	1.00
Delft	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.07		
Terril	2	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Piping	0.27	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.28
						Cutbanks cave	0.10
L156D2:							
Omsrud, moderately eroded	50	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.45	No ground water	1.00
		Slope	0.03				
Storden, moderately eroded	25	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.61	No ground water	1.00
		Slope	0.03				
Pilot Grove	15	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	No ground water	1.00
		Slope	0.03				
Hawick	4	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.50	No ground water	1.00
		Slope	0.03				
Ridgeton	2	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.72	Piping	0.32	No ground water	1.00
		Slope	0.01				
Delft	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.07		
Terril	2	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Piping	0.27	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.28
						Cutbanks cave	0.10

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L157A:							
Lowlein----------	78	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.87	Cutbanks cave	1.00
						Depth to water	0.06
Nicollet----------	14	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.04		
Round Lake----------	4	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	Cutbanks cave	1.00
				Depth to saturated zone	0.05	Depth to water	0.60
Webster----------	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.07		
Farrar----------	2	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Piping	0.92	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10
L158B:							
Round Lake----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	Cutbanks cave	1.00
				Depth to saturated zone	0.05	Depth to water	0.60
Lowlein----------	13	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.87	Cutbanks cave	1.00
						Depth to water	0.06
				Seepage	0.03		
Ocheyedan----------	3	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.84	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10
Estherville---------	2	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	No ground water	1.00
Webster----------	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.07		
L159A:							
Knoke, depressional	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone	1.00	Slow refill	0.95
						Cutbanks cave	0.10
				Ponding	1.00		
				Hard to pack	0.07		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L159A:							
Okoboji, depressional	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone	1.00	Slow refill	0.95
						Cutbanks cave	0.10
				Ponding	1.00		
				Hard to pack	0.23		
Essexville	4	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	0.95		
				Seepage	0.36		
Canisteo	3	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.30		
Canisteo, depressional	3	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Ponding	1.00		
				Piping	0.15		
L160B:							
Dickinson, loamy substratum	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	No ground water	1.00
Farrar	8	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Piping	0.92	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10
Lowlein	7	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.87	Cutbanks cave	1.00
						Depth to water	0.06
				Seepage	0.03		
L161C:							
Estherville	38	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	No ground water	1.00
Pilot Grove	38	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	No ground water	1.00
Well drained soils	15	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.88	No ground water	1.00
Hawick	5	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.50	No ground water	1.00
Delft	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.07		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L161C:							
Terril----------	2	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Piping	0.27	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.28
						Cutbanks cave	0.10
L162B:							
Clarion----------	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.36	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10
Round Lake----------	30	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	Cutbanks cave	1.00
				Depth to saturated zone	0.05	Depth to water	0.60
Estherville---------	8	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	No ground water	1.00
Lowlein----------	5	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.87	Cutbanks cave	1.00
				Seepage	0.03	Depth to water	0.06
Nicollet----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
				Piping	0.04	Cutbanks cave	0.10
Swanlake----------	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.61	Depth to water	0.60
				Depth to saturated zone	0.05	Slow refill	0.30
						Cutbanks cave	0.10
Webster----------	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
				Piping	0.07	Cutbanks cave	0.10
L163A:							
Okoboji, depressional-------	92	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone	1.00	Slow refill	0.95
				Ponding	1.00	Cutbanks cave	0.10
				Hard to pack	0.23		
Canisteo----------	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
				Piping	0.01	Cutbanks cave	0.10
Harpster----------	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
				Piping	0.02	Cutbanks cave	0.10

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
L163A:							
Knoke, depressional	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.05	Depth to saturated zone	1.00	Slow refill	0.95
						Cutbanks cave	0.10
				Ponding	1.00		
				Hard to pack	0.07		
Prinsburg----------	2	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.06		
L170B:							
Estherville---------	50	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	No ground water	1.00
Round Lake----------	45	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.69	Cutbanks cave	1.00
				Depth to saturated zone	0.05	Depth to water	0.60
Lowlein----------	3	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.87	Cutbanks cave	1.00
						Depth to water	0.06
				Seepage	0.03		
Poorly drained soils	2	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	0.88		
				Seepage	0.69		
M-W:							
Water, miscellaneous	100	Not rated		Not rated		Not rated	
P1B:							
Annieville----------	80	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Piping	0.01	Depth to water	0.81
						Cutbanks cave	0.10
McCreath----------	10	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	0.02		
Galva----------	5	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.06	No ground water	1.00
Primghar----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
P2A:							
McCreath----------	80	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	0.02		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
P2A:							
Gillett Grove-------	10	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Annieville----------	5	Very limited Seepage	1.00	Somewhat limited Piping	0.01	Somewhat limited Depth to water Cutbanks cave	0.81 0.10
Primghar----------	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
P3A:							
Biscay, occasionally flooded----------	85	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.47	Very limited Cutbanks cave	1.00
Cylinder, occasionally flooded----------	10	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.36	Very limited Cutbanks cave	1.00
Talcot, occasionally flooded----------	5	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.47	Very limited Cutbanks cave	1.00
P7A:							
Comfrey, occasionally flooded----------	80	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Colo, occasionally flooded----------	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Havelock, occasionally flooded----------	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Havelock, frequently flooded----------	5	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
P7A:							
Spillco, occasionally flooded	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.87	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.50	Depth to water	0.06
P9A:							
Gillett Grove	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
McCreath	10	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	0.02		
Afton, frequently flooded	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Depth to saturated zone	1.00	Slow refill	0.96
						Cutbanks cave	0.10
P12B:							
Everly	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.03	Piping	0.10	Slow refill	0.97
						Depth to water	0.81
						Cutbanks cave	0.10
Sac	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.87	Slow refill	0.97
						Cutbanks cave	0.10
				Piping	0.01	Depth to water	0.06
Ransom	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.01		
Wilmonton	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.08		
P12C2:							
Everly, moderately eroded	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.03	Piping	0.10	Slow refill	0.97
						Depth to water	0.81
						Cutbanks cave	0.10
Everly	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.03	Piping	0.10	Slow refill	0.97
						Depth to water	0.81
						Cutbanks cave	0.10
Moneta	5	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.03	Piping	0.15	No ground water	1.00
		Slope	0.01				

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
P12C2:							
Wilmonton	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.08		
P15B:							
Galva	80	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.06	No ground water	1.00
Primghar	10	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Annieville	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.95	Piping	0.01	Depth to water	0.81
						Cutbanks cave	0.10
						Slow refill	0.05
Sac	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.87	Slow refill	0.97
						Cutbanks cave	0.10
				Piping	0.01	Depth to water	0.06
P20B:							
Judson	80	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.23	No ground water	1.00
Primghar	10	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Galva	5	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.06	No ground water	1.00
Whitewood, overwash	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Depth to saturated zone	1.00	Slow refill	0.97
						Cutbanks cave	0.10
P21A:							
Marcus	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Depth to saturated zone	1.00	Slow refill	0.97
						Cutbanks cave	0.10
Whitewood, frequently flooded	10	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Depth to saturated zone	1.00	Slow refill	0.97
						Cutbanks cave	0.10
Primghar	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Spicer	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.01		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
P27A:							
Primghar	80	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Galva	8	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.06	Very limited No ground water	1.00
Marcus	8	Somewhat limited Seepage	0.03	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.97 0.10
Judson	4	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.01	Somewhat limited Depth to water Slow refill Cutbanks cave	0.78 0.30 0.10
P28A:							
Ransom	80	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Rushmore	8	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Sac	8	Somewhat limited Seepage	0.70	Somewhat limited Depth to saturated zone Piping	0.87 0.01	Somewhat limited Slow refill Cutbanks cave Depth to water	0.97 0.10 0.06
Primghar	4	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
P29A:							
Rushmore	80	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Ransom	10	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Whitewood, frequently flooded	10	Somewhat limited Seepage	0.03	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.97 0.10
P30B:							
Sac	80	Somewhat limited Seepage	0.70	Somewhat limited Depth to saturated zone Piping	0.87 0.01	Somewhat limited Slow refill Cutbanks cave Depth to water	0.97 0.10 0.06

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
P30B:							
Annieville----------	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.95	Piping	0.01	Depth to water	0.81
						Cutbanks cave	0.10
						Slow refill	0.05
Primghar----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Ransom----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.01		
P31A:							
Spicer----------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.01		
Marcus----------	10	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Depth to saturated zone	1.00	Slow refill	0.97
						Cutbanks cave	0.10
Whitewood----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.03	Depth to saturated zone	1.00	Slow refill	0.97
						Cutbanks cave	0.10
P33A:							
Spillco, occasionally flooded----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.87	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.50	Depth to water	0.06
Spillco, frequently flooded----------	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.87	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.50	Depth to water	0.06
Comfrey, occasionally flooded----------	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
P36A:							
Talcot, occasionally flooded----------	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.47		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
P36A:							
Biscay, occasionally flooded	10	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.47		
Cylinder, occasionally flooded	5	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.36		
P37D:							
Talmo	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	No ground water	1.00
		Slope	0.15				
Kanaranzi	5	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.54	No ground water	1.00
Thurman	5	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.57	No ground water	1.00
P38B:							
Thurman	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.57	No ground water	1.00
Henkin	10	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.22	No ground water	1.00
P38C:							
Thurman	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.57	No ground water	1.00
Henkin	10	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.22	No ground water	1.00
P43A:							
Wilmonton	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.08		
Everly	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.03	Piping	0.10	Slow refill	0.97
						Depth to water	0.81
						Cutbanks cave	0.10
Ransom	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.01		
Rushmore	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.01		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
P45E:							
Moneta	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.12	Piping	0.15	No ground water	1.00
		Seepage	0.03				
Judson	10	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.70	Piping	0.23	No ground water	1.00
Soils that are moderately deep to carbonates	5	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.12	Piping	0.15	No ground water	1.00
		Seepage	0.03				
P48A:							
Allendorf	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.93	No ground water	1.00
				Seepage	0.10		
Kanaranzi	5	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.54	No ground water	1.00
Moderately well drained soils	5	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.93	Cutbanks cave	1.00
				Depth to saturated zone	0.87	Depth to water	0.06
				Seepage	0.10		
Sac	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.87	Slow refill	0.97
						Cutbanks cave	0.10
				Piping	0.01	Depth to water	0.06
P48B:							
Allendorf	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.93	No ground water	1.00
				Seepage	0.10		
Kanaranzi	5	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.54	No ground water	1.00
Moderately well drained soils	5	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.93	Cutbanks cave	1.00
				Depth to saturated zone	0.87	Depth to water	0.06
				Seepage	0.10		
Sac	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.87	Slow refill	0.97
						Cutbanks cave	0.10
				Piping	0.01	Depth to water	0.06
P49A:							
Comfrey, frequently flooded	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
P49A:							
Comfrey, occasionally flooded	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Havelock, frequently flooded	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Spillco, occasionally flooded	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.87	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.50	Depth to water	0.06
P50B:							
Everly	60	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.07	Slow refill	0.97
						Depth to water	0.81
						Cutbanks cave	0.10
Kanaranzi	25	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.44	No ground water	1.00
Wilmonton	10	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.08		
Ransom	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.01		
P51C2:							
Everly, moderately eroded	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.06	Slow refill	0.97
						Depth to water	0.81
						Cutbanks cave	0.10
Moneta, moderately eroded	20	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.03	Piping	0.16	No ground water	1.00
		Slope	0.01				
Talmo, moderately eroded	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	No ground water	1.00
Everly	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.03	Piping	0.10	Slow refill	0.97
						Depth to water	0.81
						Cutbanks cave	0.10

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
P51C2:							
Kanaranzi	5	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.54	No ground water	1.00
Wilmonton	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.08		
P52D2:							
Moneta, moderately eroded	40	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Piping	0.16	No ground water	1.00
		Seepage	0.03				
Everly, moderately eroded	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.03	Piping	0.06	Slow refill	0.97
		Slope	0.02			Depth to water	0.81
						Cutbanks cave	0.10
Talmo, moderately eroded	20	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.82	No ground water	1.00
		Slope	0.03				
Everly	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.03	Depth to saturated zone	0.87	Slow refill	0.97
						Cutbanks cave	0.10
				Piping	0.10	Depth to water	0.06
Kanaranzi	5	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.54	No ground water	1.00
Wilmonton	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.08		
P53C2:							
Everly, moderately eroded	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Piping	0.09	Slow refill	0.97
						Depth to water	0.81
						Cutbanks cave	0.10
Moneta, moderately eroded	25	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.03	Piping	0.16	No ground water	1.00
		Slope	0.01				
Everly	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.03	Piping	0.10	Slow refill	0.97
						Depth to water	0.81
						Cutbanks cave	0.10
Wilmonton	10	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.08		

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
P54D2:							
Moneta, moderately eroded	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.04	Piping	0.15	No ground water	1.00
		Seepage	0.03				
Everly, moderately eroded	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.03	Depth to saturated zone	0.87	Slow refill	0.97
						Cutbanks cave	0.10
		Slope	0.02	Piping	0.05	Depth to water	0.06
Everly	10	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.03	Depth to saturated zone	0.87	Slow refill	0.97
						Cutbanks cave	0.10
				Piping	0.10	Depth to water	0.06
Wilmonton	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.08		
P55A:							
Kato	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.47		
Somewhat poorly drained soils	10	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.47		
P56A:							
Kanaranzi	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.54	No ground water	1.00
Allendorf	10	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.93	No ground water	1.00
				Seepage	0.10		
Moderately well drained soils	10	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.87	Cutbanks cave	1.00
						Depth to water	0.06
				Seepage	0.54		
P56B:							
Kanaranzi	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.54	No ground water	1.00
Allendorf	14	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.93	No ground water	1.00
				Seepage	0.10		
Talmo	6	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.44	No ground water	1.00

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
U3B:							
Udorthents (cut and fill land)	100	Not limited		Not rated		Not rated	
U7:							
Udorthents, shallow, sanitary landfill	100	Not limited		Not rated		Not rated	
U15A:							
Havelock, frequently flooded	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Havelock, occasionally flooded	10	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Calco, frequently flooded	5	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Spillco, frequently flooded	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.87	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.50	Depth to water	0.06
U24A:							
Havelock, occasionally flooded	80	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Havelock, frequently flooded	10	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10
Spillco, occasionally flooded	5	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	0.87	Slow refill	0.30
						Cutbanks cave	0.10
				Piping	0.50	Depth to water	0.06
Comfrey, occasionally flooded	3	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
						Cutbanks cave	0.10

Table 15.--Water Management--Continued

Map symbol and component name	Pct. of map unit	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
U24A:							
Calco, occasionally flooded	2	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
W:							
Water	100	Not rated		Not rated		Not rated	

Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, and the physical and chemical properties of the major horizons of each soil. Pertinent soil and water features also are given.

Engineering Index Properties

Table 16 gives estimates of the engineering classification and of the range of index properties for the major horizons of each soil. Most soils have horizons of contrasting properties within the upper 5 or 6 feet.

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.

Depth to the upper and lower boundaries of each horizon is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as 15 percent, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-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, SP-SM.

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 grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-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 omitted in the table.

Physical and Chemical Properties

Tables 17 and 18 show estimates of some characteristics and features that affect soil behavior. These estimates are given for the major horizons 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 horizon is indicated.

In table 17, *clay* as a soil separate, or component, consists of mineral soil particles that are less than 0.002 millimeter in diameter. The estimated clay content of each major soil horizon is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence linear extensibility, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earth-moving 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 $^1/_3$-bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In table 17, the estimated moist bulk density of each major 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 linear extensibility, 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. A bulk density of more than 1.6 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 term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil horizon. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility percent is the linear expression of the volume difference of natural soil fabric at $^1/_3$-bar or $^1/_{10}$-bar water content and oven dryness. The volume change is reported as percent change for the whole soil. 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 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 measurements of similar soils.

Linear extensibility of 3 percent or more can cause damage to buildings, roads, and other structures. Special design is often needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 17, 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 or increased by returning crop residue to the soil. Organic matter affects the available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

Erosion factors are shown in table 17 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 several 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. Descriptions of these groups are available in the National Soil Survey Handbook (USDA, 2003).

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

In table 18, *cation-exchange capacity* is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Water Features

Table 19 provides information about various water features. This information can be used in land use planning that involves engineering considerations.

Soil moisture status is an estimate of the fluctuating water content in a soil. It greatly influences vegetation type and plant growth; physical properties of soils, such as permeability, workability, strength, linear extensibility, and frost action; and chemical interactions and transport. Many other properties, qualities, and interpretations also are affected. Soil moisture status is important in the classification of soils, wetland, and habitat.

Table 19 gives estimates of soil moisture for each component of a map unit at various depths for every month of the year. The depths displayed are representative values. Representative values are indicative of conditions that occur most commonly. *Dry* indicates a moisture condition under which most plants (especially crops) cannot extract water for growth. *Moist* indicates a moisture condition under which soil water is most readily available for plant growth. *Wet* indicates a condition under which water will stand in an unlined hole or at least a condition under which the soil is too wet for the growth of most agricultural species. A moisture status of 4.0-6.7 (wet) indicates that most of the time the component is saturated at some depth between 4.0 feet and 6.7 feet during the month designated. In some years the soil may be saturated at a depth of less than 4.0 feet or more than 6.7 feet; however, field observations indicate that the soil will be saturated between these depths in most years. In the summer, the soil may show the effects of drying plus intermittent rains that result in a moist or wet layer over a dry layer that gets moist or wet again.

Flooding, the temporary covering of the soil surface by flowing water, is caused by overflow from streams or by runoff from adjacent slopes. Shallow water standing or flowing for short periods after rainfall or snowmelt is not considered flooding. Standing water in marshes and swamps or in closed depressions is considered to be ponding.

Table 19 gives estimates of the frequency and duration of flooding. Flooding frequency is the annual probability of a flood event expressed as a class. *None* indicates no reasonable possibility of flooding (the chance of flooding is nearly 0 percent in any year, or flooding is likely less than once in 500 years). *Very rare* indicates that flooding is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year, or flooding is likely less than once in 100 years but more than once in 500 years). *Rare* indicates that flooding is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year, or flooding is likely 1 to 5 times in 100 years). *Occasional* indicates that flooding occurs infrequently under usual weather conditions (the chance of flooding is 5 to 50 percent in any year, or flooding is likely 5 to 50 times in 100 years). *Frequent* indicates that flooding is likely to occur often under usual weather conditions (the chance of flooding is more than 50 percent in any year, or flooding is likely more than 50 times in 100 years; but the chance of flooding is less than 50 percent in all months in any year). *Very frequent* indicates that flooding is likely to occur very often under usual weather conditions (the chance of flooding is more than 50 percent in all months of any year).

Flooding duration is the average duration of inundation per flood occurrence expressed as a class. *Extremely brief* is 0.1 hour to 4.0 hours; *very brief* is 4 to 48 hours; *brief* is 2 to 7 days; *long* is 7 to 30 days; and *very long* is more than 30 days. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information on flooding 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 level 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.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation.

Table 19 gives estimates of the frequency, duration, and depth of ponding. The depths displayed are representative values. Representative values are indicative of conditions that occur most commonly.

Ponding frequency is the number of times ponding occurs over a period of time. *None* indicates no reasonable possibility of ponding (the chance of ponding is nearly 0 percent in any year). *Rare* indicates that ponding is unlikely but possible under

unusual weather conditions (the chance of ponding ranges from nearly 0 percent to 5 percent in any year, or ponding is likely 0 to 5 times in 100 years). *Occasional* indicates that ponding is expected infrequently under usual weather conditions (the chance of ponding ranges from 5 to 50 percent in any one year, or ponding is likely 5 to 50 times in 100 years). *Frequent* indicates that ponding is likely to occur under usual weather conditions (the chance of ponding is more than 50 percent in any year, or ponding is likely more than 50 times in 100 years).

Ponding duration is the average length of time of the ponding occurrence. It is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 to 30 days), and *very long* (more than 30 days).

Soil Features

Table 20 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

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 a zone in which the soil moisture status is wet 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 saturated zone high in the profile during the 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.

Table 16.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
GP:														
Pits, gravel.														
Udipsamments.														
L5A:														
Delft, overwash	45	B/D	0-12	Loam	ML	A-6, A-7	0	0	95-100	90-100	75-90	60-80	37-49	13-19
			12-37	Loam	ML, MH	A-6, A-7	0	0	95-100	90-100	75-90	60-80	39-58	13-21
			37-47	Clay loam, silt loam	CL	A-6	0	0	95-100	90-100	70-90	50-75	30-45	13-22
			47-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Delft----------	35	B/D	0-37	Loam	MH, ML	A-7	0	0	95-100	90-100	75-90	60-80	43-62	17-24
			37-50	Clay loam, silt loam	CL	A-6	0	0	95-100	90-100	70-90	50-75	30-45	13-22
			50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Delft, frequently flooded--------	7	B/D	0-8	Clay loam	MH, ML	A-7	0	0	100	95-100	90-100	65-90	47-62	18-24
			8-26	Clay loam, loam, silt loam	CL, ML	A-6	0	0	100	95-100	90-100	65-90	34-55	13-25
			26-40	Clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-100	65-90	32-47	15-25
			40-80	Loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Terril----------	6	B	0-27	Loam	ML	A-6	0	0-2	95-100	95-100	70-90	60-80	33-46	11-18
			27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	36-47	16-21
			40-63	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	30-41	15-21
			63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Glencoe, depressional---	4	B/D	0-10	Clay loam	ML, MH, OL	A-7	0	0	95-100	90-100	75-100	60-90	47-66	18-24
			10-35	Silty clay loam, clay loam, loam	ML, CL	A-7, A-6	0	0	95-100	90-100	75-100	60-90	39-55	17-25
			35-48	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	36-49	17-25
			48-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L5A:														
Poorly drained soils----------	3	B/D	0-32	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	80-95	45-62	18-24
			32-43	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	80-95	36-47	17-25
			43-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L6A:														
Biscay----------	85	B/D	0-20	Loam	MH, ML	A-7, A-6	0	0	95-100	95-100	70-95	50-80	37-58	12-21
			20-28	Loam, clay loam, sandy clay loam	CL	A-6, A-7	0	0	95-100	90-100	70-90	50-75	30-43	12-21
			28-36	Gravelly loam, sandy loam, gravelly sandy loam	SC-SM, SC	A-4	0	0-5	45-95	40-95	40-80	35-50	21-39	6-19
			36-60	Stratified very gravelly coarse sand to loamy sand	GP, SP, SP-SM, GP-GM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-3
Biscay, depressional---	8	B/D	0-23	Loam	ML, MH	A-6, A-7	0	0	95-100	95-100	70-95	50-80	37-58	12-21
			23-28	Loam, clay loam, sandy clay loam	CL	A-6, A-7	0	0	95-100	90-100	70-90	50-75	30-43	12-21
			28-36	Gravelly loam, sandy loam, gravelly sandy loam	SC-SM, SC	A-4	0	0-5	45-95	40-95	40-80	35-50	21-39	6-19
			36-60	Stratified very gravelly coarse sand to loamy sand	GP, SP, SP-SM, GP-GM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-3
Mayer----------	5	B/D	0-18	Loam	ML, MH	A-6	0	0-2	95-100	85-100	70-90	50-85	36-56	11-20
			18-33	Sandy clay loam, silt loam, clay loam	CL, SC	A-6	0	0-2	80-95	80-85	70-85	35-65	28-41	12-21
			33-80	Gravelly coarse sand, sand, coarse sand	SP-SM, SW, SP	A-1	0-1	0-10	50-95	45-85	20-45	2-10	0-19	NP-2

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L6A:														
Cylinder--------	2	B	0-14	Loam	ML	A-7	0	0	100	90-100	80-100	50-75	41-49	15-19
			14-18	Loam, clay loam	CL, SC	A-6	0	0	95-100	80-100	80-95	45-70	37-47	15-21
			18-28	Loam	CL	A-6	0	0	95-100	80-100	80-95	45-70	37-47	15-21
			28-80	Gravelly sandy loam, gravelly sand, gravelly loamy sand	SP-SM, SM	A-1	0	0-10	65-95	65-95	20-55	5-25	0-25	NP-7
L78A:														
Canisteo--------	65	B/D	0-18	Clay loam	MH, ML	A-7	0	0	95-100	95-100	85-100	60-100	45-60	18-24
			18-39	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-18
			39-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Crippin---------	10	B	0-15	Loam	ML	A-7	0	0	95-100	95-100	80-90	60-80	41-49	14-18
			15-27	Loam, clay loam	CL	A-6	0	0-5	95-100	90-100	80-90	60-80	34-45	16-21
			27-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Glencoe, depressional---	10	B/D	0-10	Clay loam	MH, ML, OL	A-7	0	0	95-100	90-100	75-100	60-90	47-66	18-24
			10-35	Silty clay loam, clay loam, loam	CL, ML	A-6, A-7	0	0	95-100	90-100	75-100	60-90	39-55	17-25
			35-48	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	36-49	17-25
			48-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Canisteo, depressional---	5	B/D	0-17	Silty clay loam	MH, ML	A-7	0	0	95-100	95-100	85-100	60-100	45-59	18-22
			17-30	Clay loam, loam, silty clay loam	CH, CL	A-6	0	0-5	95-100	90-100	85-95	65-85	35-53	13-25
			30-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Harps----------	5	B/D	0-13	Clay loam	MH, ML	A-7	0	0-5	95-100	95-100	80-90	65-80	43-55	18-25
			13-30	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			30-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Webster---------	5	B/D	0-19	Clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			19-26	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			26-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L79B:														
Clarion---------	70	B	0-14	Loam	ML, CL	A-6	0	0-5	95-100	95-100	75-90	50-75	35-49	13-18
			14-33	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	32-41	15-21
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Clarion, moderately eroded---------	15	B	0-10	Loam	CL	A-6	0	0-5	95-100	95-100	75-90	50-75	33-44	13-18
			10-38	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	32-41	15-21
			38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Nicollet--------	8	B	0-17	Clay loam	MH, ML	A-7	0-1	0-5	95-100	90-100	85-100	55-85	45-62	18-24
			17-33	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	36-49	17-25
			33-36	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	35-47	17-25
			36-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Ocheyedan-------	5	B	0-10	Loam	CL, ML	A-6	0	0	100	100	75-90	65-80	39-49	16-18
			10-30	Sandy clay loam, fine sandy loam, loam	SC-SM, SC, CL	A-4, A-6	0	0	100	100	60-80	35-55	25-36	9-16
			30-60	Stratified loam to silt loam, sandy clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-95	50-90	22-35	7-16
Webster---------	2	B/D	0-19	Clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			19-26	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			26-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L83A:														
Webster---------	65	B/D	0-19	Clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			19-26	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			26-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L83A:														
Glencoe, depressional---	14	B/D	0-10	Clay loam	MH, ML, OL	A-7	0	0	95-100	90-100	75-100	60-90	47-66	18-24
			10-35	Silty clay loam, clay loam, loam	CL, ML	A-6, A-7	0	0	95-100	90-100	75-100	60-90	39-55	17-25
			35-48	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	36-49	17-25
			48-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Canisteo--------	8	B/D	0-18	Clay loam	ML, MH	A-7	0	0	95-100	95-100	85-100	60-100	45-60	18-24
			18-39	Clay loam, loam	CL	A-6	0	0-5	90-100	80-95	60-95	50-85	34-45	17-25
			39-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Nicollet--------	8	B	0-17	Clay loam	MH, ML	A-7	0-1	0-5	95-100	90-100	85-100	55-85	45-62	18-24
			17-33	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	36-49	17-25
			33-36	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	35-47	17-25
			36-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Poorly drained soils----------	5	B/D	0-22	Clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			22-30	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			30-57	Coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, GP, SM, SP	A-1	0-5	0-15	55-100	50-100	10-40	2-25	0-21	NP-4
			57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L85A:														
Nicollet--------	85	B	0-17	Clay loam	CL, ML	A-6, A-7	0-1	0-5	95-100	90-100	85-100	55-85	35-50	10-25
			17-33	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	35-50	15-25
			33-36	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	35-50	15-25
			36-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L85A:														
Clarion---------	10	B	0-14	Loam	CL, CL-ML	A-4, A-6	0	0-5	95-100	95-100	75-90	50-75	25-40	5-15
			14-33	Loam	CL-ML, CL	A-4, A-6	0	0-5	90-100	85-100	75-90	50-75	25-40	5-15
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
Webster---------	5	B/D	0-19	Clay loam	OL, CL	A-7, A-6	0	0-5	95-100	95-100	85-95	75-90	40-50	15-20
			19-26	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	35-45	15-25
			26-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	30-40	12-20
L88A:														
Lura, depressional---	85	C/D	0-10	Silty clay	MH, OH	A-7	0	0	100	100	95-100	90-100	62-91	32-42
			10-58	Silty clay, clay	CH	A-7	0	0	100	100	95-100	90-100	56-76	32-43
			58-72	Silty clay, silty clay loam, clay	CH, CL	A-7	0	0	100	100	95-100	90-100	39-70	20-44
Brownton--------	7	C/D	0-22	Silty clay loam	MH, CH	A-7	0	0	100	95-100	90-100	85-95	53-67	25-28
			22-38	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	95-100	90-100	85-95	46-70	25-44
			38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Depressional soils that have an organic surface layer--	5	A/D	0-10	Muck	PT	A-8	0	0	100	100	80-100	60-100	---	---
			10-26	Mucky silty clay loam	MH	A-7	0	0	100	95-100	90-100	85-95	61-90	21-27
			26-48	Clay loam, silty clay loam	MH	A-7	0	0	95-100	90-100	80-100	60-90	50-70	21-28
			48-80	Silty clay, silty clay loam, clay	CH, CL	A-7	0	0	100	100	95-100	90-100	39-53	20-29

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L88A:														
Prinsburg-------	3	B/D	0-19	Silty clay loam	MH, ML	A-7	0	0	100	100	100	90-100	45-62	18-24
			19-29	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			29-46	Silt loam, silty clay loam	CL	A-6	0	0	100	100	100	90-100	28-45	12-25
			46-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L96B:														
Estherville-----	55	B	0-13	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-35	2-10
			13-18	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			18-23	Coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0	0-10	55-100	50-100	10-40	2-25	0-21	NP-4
			23-60	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0	0-10	55-90	50-85	10-40	2-25	0-21	NP-4
Hawick----------	35	A	0-7	Gravelly coarse sandy loam, sandy loam	SM, SP-SM	A-1, A-2, A-3	0-2	0-5	75-100	60-100	35-70	5-35	0-29	NP-6
			7-80	Gravelly coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0-2	0-5	60-95	50-95	30-65	2-10	0-19	NP-2
Biscay----------	2	B/D	0-20	Loam	MH, ML	A-6, A-7	0	0	95-100	95-100	70-95	50-80	37-58	12-21
			20-28	Loam, clay loam, sandy clay loam	CL	A-6, A-7	0	0	95-100	90-100	70-90	50-75	30-43	12-21
			28-36	Gravelly loam, sandy loam, gravelly sandy loam	SC-SM, SC	A-4	0	0-5	95-100	70-95	50-80	35-50	21-39	6-19
			36-60	Gravelly coarse sand	SP, GP, SP-SM, GP-GM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-3

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L96B:														
Tomall----------	8	B	0-33	Loam	SM, CL-ML	A-4	0	0	100	100	85-100	45-90	31-50	7-13
			33-42	Loam, sandy loam	SC	A-4	0	0	100	95-100	85-100	45-90	21-32	6-12
			42-47	Gravelly coarse sand, loamy coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	55-100	50-100	50-100	4-20	0-22	NP-6
			47-80	Gravelly loamy coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	60-100	50-90	20-60	2-10	0-22	NP-6
L97C:														
Hawick----------	60	A	0-7	Gravelly sandy loam, sandy loam	SM, SP-SM	A-3, A-1, A-2	0-2	0-5	75-95	60-95	35-70	5-35	0-29	NP-6
			7-80	Gravelly coarse sand, coarse sand, sand	SP-SM, SP	A-1, A-2, A-3	0-2	0-5	60-95	50-95	30-65	2-10	0-19	NP-2
Estherville-----	30	B	0-13	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-35	2-10
			13-18	Sandy loam, loam, coarse sandy loam	SC, SC-SM	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			18-23	Coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0	0-10	55-100	50-100	10-40	2-25	0-21	NP-4
			23-60	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0	0-10	55-90	50-85	10-40	2-25	0-21	NP-4

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L97C:														
Tomall----------	10	B	0-33	Loam	SM, CL-ML	A-4	0	0	100	100	85-100	45-90	31-50	7-13
			33-42	Loam, sandy loam	SC	A-4	0	0	100	95-100	85-100	45-90	21-32	6-12
			42-47	Gravelly coarse sand, loamy coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	55-100	50-100	25-65	4-20	0-22	NP-6
			47-80	Gravelly loamy coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0	0	60-100	50-90	20-60	2-10	0-22	NP-6
L98A:														
Crippin---------	50	B	0-15	Loam	ML	A-7	0	0	95-100	95-100	80-90	60-80	41-49	14-18
			15-27	Loam, clay loam	CL	A-6	0	0-5	95-100	90-100	80-90	60-80	34-45	16-21
			27-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Nicollet--------	40	B	0-17	Clay loam	MH, ML	A-7	0-1	0-5	95-100	90-100	85-100	55-85	45-62	18-24
			17-33	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	36-49	17-25
			33-36	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	35-47	17-25
			36-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Canisteo--------	5	B/D	0-18	Clay loam	ML, MH	A-7	0	0	95-100	95-100	85-100	60-100	45-60	18-24
			18-39	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-18
			39-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Clarion---------	5	B	0-14	Loam	ML, CL	A-6	0	0-5	95-100	95-100	75-90	50-75	35-49	13-18
			14-33	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	32-41	15-21
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L102C2:														
Omsrud, moderately eroded---------	45	B	0-9	Loam	CL	A-6	0	0-2	95-100	90-98	85-95	55-75	33-44	13-18
			9-19	Loam, clay loam	CL	A-6	0	0-2	95-100	90-98	75-95	55-80	32-43	15-21
			19-36	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			36-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L102C2:														
Storden, moderately eroded---------	24	B	0-7	Loam	CL	A-6	0	0-5	95-100	95-98	75-95	60-75	29-41	12-19
			7-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Omsrud----------	14	B	0-12	Loam	CL	A-6	0	0-2	95-100	90-98	85-95	55-75	35-46	13-18
			12-16	Loam, clay loam	CL	A-6	0	0-2	95-100	90-98	75-95	55-80	32-43	15-21
			16-32	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			32-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Terril----------	10	B	0-27	Loam	ML, CL	A-6	0	0-2	95-100	95-100	70-90	60-80	33-46	11-18
			27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	36-47	16-21
			40-63	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	30-41	15-21
			63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Delft----------	5	B/D	0-37	Loam	ML, MH	A-7	0	0	95-100	90-100	75-90	60-80	43-62	17-24
			37-50	Clay loam, silt loam	CL	A-6	0	0	95-100	90-100	70-90	50-75	30-45	13-22
			50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Crooksford------	2	B	0-10	Silty clay loam, silt loam	ML, MH	A-6	0	0	100	100	85-100	70-90	37-53	12-21
			10-20	Silty clay loam	ML, CL	A-6	0	0	100	100	85-100	70-90	35-49	12-21
			20-26	Silt loam, silty clay loam	CL	A-6	0	0	100	100	90-100	70-90	31-45	12-21
			26-34	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	32-41	15-21
			34-80	Loam	CL	A-6	0	0	100	95-100	85-95	70-90	30-40	12-19
L102D2:														
Omsrud, moderately eroded---------	45	B	0-9	Loam	CL	A-6	0	0-2	95-100	90-98	85-95	55-75	33-44	13-18
			9-19	Loam, clay loam	CL	A-6	0	0-2	95-100	90-98	75-95	55-80	32-43	15-21
			19-36	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			36-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Storden, moderately eroded---------	20	B	0-7	Loam	CL	A-6	0	0-5	95-100	95-98	75-95	60-75	29-41	12-19
			7-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L102D2:														
Omsrud----------	14	B	0-12	Loam	CL	A-6	0	0-2	95-100	90-98	85-95	55-75	35-46	13-18
			12-16	Loam, clay loam	CL	A-6	0	0-2	95-100	90-98	75-95	55-80	32-43	15-21
			16-32	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			32-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Ridgeton--------	9	B	0-23	Loam	CL, ML	A-6	0	0-2	95-100	95-100	70-90	60-80	33-46	11-18
			23-38	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	36-47	16-21
			38-50	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	32-44	15-21
			50-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Delft----------	6	B/D	0-37	Loam	ML, MH	A-7	0	0	95-100	90-100	75-90	60-80	43-62	17-24
			37-50	Clay loam, silt loam	CL	A-6	0	0	95-100	90-100	70-90	50-75	30-45	13-22
			50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Terril----------	6	B	0-27	Loam	ML, CL	A-6	0	0-2	95-100	95-100	70-90	60-80	33-46	11-18
			27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	36-47	16-21
			40-63	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	30-41	15-21
			63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L107A:														
Canisteo--------	50	B/D	0-18	Clay loam	ML, MH	A-7	0	0	95-100	95-100	85-100	60-100	45-60	18-24
			18-39	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-18
			39-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Glencoe, depressional---	35	B/D	0-10	Clay loam	OL, MH, ML	A-7	0	0	95-100	90-100	75-100	60-90	47-66	18-24
			10-35	Silty clay loam, clay loam, loam	CL, ML	A-6, A-7	0	0	95-100	90-100	75-100	60-90	39-55	17-25
			35-48	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	36-49	17-25
			48-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Harps----------	10	B/D	0-13	Clay loam	MH, ML	A-7	0	0-5	95-100	95-100	80-90	65-80	43-55	18-25
			13-30	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			30-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Canisteo, depressional---	3	B/D	0-17	Silty clay loam	MH, ML	A-7	0	0	95-100	95-100	85-100	60-100	45-59	18-22
			17-30	Clay loam, loam, silty clay loam	CL, CH	A-6	0	0-5	95-100	90-100	85-95	65-85	35-53	13-25
			30-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L107A:														
Crippin---------	2	B	0-15	Loam	ML	A-7	0	0	95-100	95-100	80-90	60-80	41-49	14-18
			15-27	Loam, clay loam	CL	A-6	0	0-5	95-100	90-100	80-90	60-80	34-45	16-21
			27-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L111A:														
Nicollet--------	80	B	0-10	Silty clay loam	ML, MH	A-7	0-1	0-5	95-100	90-100	85-100	55-85	45-62	18-24
			10-31	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	37-49	17-25
			31-42	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-18
			42-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Okabena---------	14	B	0-15	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	85-100	43-57	18-22
			15-22	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	29-47	12-22
			22-43	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			43-48	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	27-42	12-22
			48-80	Loam, clay loam	CL	A-6	0	0-5	90-100	85-95	80-90	55-80	30-42	15-22
Clarion---------	4	B	0-14	Loam	CL, ML	A-6	0	0-5	95-100	95-100	75-90	50-75	35-49	13-18
			14-33	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	33-42	15-21
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Webster---------	2	B/D	0-24	Silty clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			24-45	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			45-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L112A:														
Webster---------	80	B/D	0-24	Silty clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			24-45	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			45-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L112A:														
Chetomba--------	10	B/D	0-23	Silty clay loam	MH, ML	A-7	0	0	100	100	100	90-100	45-62	18-24
			23-31	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			31-43	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	28-45	12-25
			43-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Glencoe, depressional---	6	B/D	0-10	Silty clay loam	OL, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			10-29	Silty clay loam, clay loam, loam	CL, ML	A-6, A-7	0	0	95-100	90-100	75-100	60-90	39-55	17-25
			29-40	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	36-49	17-25
			40-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Canisteo--------	2	B/D	0-17	Silty clay loam	ML, MH	A-7	0	0	95-100	95-100	85-100	60-100	45-62	18-24
			17-27	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	98-100	90-100	85-100	65-95	39-53	17-25
			27-60	Clay loam, loam	CL	A-6	0	0-5	95-100	90-98	80-95	50-75	30-40	15-21
Nicollet--------	2	B	0-10	Silty clay loam	ML, MH	A-7	0-1	0-5	95-100	90-100	85-100	55-85	45-62	18-24
			10-31	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	37-49	17-25
			31-42	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-18
			42-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L126A:														
Coland, occasionally flooded--------	80	B/D	0-25	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	65-80	47-60	18-24
			25-54	Loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	65-80	37-50	15-19
			54-60	Loam, sandy loam, sandy clay loam	CL-ML, SC-SM, SC, CL	A-4, A-6	0	0	100	90-100	60-70	40-60	22-37	7-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L126A:														
Minneopa, occasionally flooded--------	10	B	0-15	Sandy loam	SC-SM, SM	A-2, A-4	0	0	100	85-100	60-70	30-40	23-37	2-10
			15-20	Sandy loam, loamy sand, coarse sandy loam	SM, SC-SM	A-4, A-2	0	0	80-100	80-100	30-70	30-40	17-28	2-10
			20-60	Loamy sand, sand, gravelly coarse sand	SM, SP-SM	A-1, A-2, A-3	0	0	80-100	80-100	25-75	5-15	0-23	NP-6
Havelock, occasionally flooded--------	5	B/D	0-23	Clay loam	ML, MH	A-7	0	0	100	100	95-100	65-85	49-61	19-25
			23-35	Clay loam, silty clay loam	CH, CL	A-6	0	0	100	100	95-100	65-85	40-51	19-25
			35-60	Stratified loam to silt loam to clay loam, sandy loam, sandy clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	100	90-100	60-70	40-60	22-38	7-19
Spillville, occasionally flooded--------	5	B	0-51	Loam	ML	A-6	0	0	100	95-100	85-95	60-80	37-50	12-18
			51-60	Sandy clay loam, loam, sandy loam	SC, CL, SC-SM	A-4, A-6	0	0	100	95-100	80-90	35-75	28-40	9-16
L127A:														
Coland, frequently flooded--------	80	B/D	0-12	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	65-80	47-60	18-24
			12-30	Loam	ML, MH	A-7	0	0	100	100	95-100	65-80	41-57	15-24
			30-55	Stratified fine sandy loam to loam, silty clay loam	SC-SM	A-6, A-4	0	0	100	100	95-100	65-80	30-50	9-19
			55-80	Loam, sandy loam, fine sandy loam	SC-SM, SC, CL-ML, CL	A-4, A-6	0	0	100	90-100	60-70	40-60	23-42	7-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L127A:														
Minneopa, occasionally flooded--------	10	B	0-16	Sandy loam	SC-SM, SM	A-2, A-4	0	0	100	85-100	60-70	30-40	20-37	2-10
			16-29	Sandy loam, loamy sand, coarse sandy loam	SM, SC-SM	A-2	0	0	80-100	80-100	30-70	15-35	17-24	2-6
			29-60	Loamy sand, sand	SM, SP-SM	A-1, A-2, A-3	0	0	80-100	80-100	25-75	5-15	0-23	NP-6
Havelock, frequently flooded--------	5	B/D	0-30	Silt loam	MH, ML	A-6	0	0	100	100	95-100	65-85	34-57	9-21
			30-40	Clay loam, loam	CH, CL	A-7	0	0	100	100	95-100	65-85	36-53	15-25
			40-60	Stratified loam to silt loam to clay loam, sandy clay loam	CL, SC, SC-SM	A-6	0	0	100	90-100	60-70	40-60	28-48	12-24
Spillville, occasionally flooded--------	5	B	0-51	Loam	ML	A-6	0	0	100	95-100	85-95	60-80	37-50	12-18
			51-60	Sandy clay loam, loam, sandy loam	SC, CL, SC-SM	A-4, A-6	0	0	100	95-100	80-90	35-75	28-40	9-16
L129B:														
Terril----------	90	B	0-27	Loam	ML, CL	A-6	0	0-2	95-100	95-100	70-90	60-80	33-46	11-18
			27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	36-47	16-21
			40-63	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	30-41	15-21
			63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Clarion---------	5	B	0-14	Loam	CL, ML	A-6	0	0-5	95-100	95-100	75-90	50-75	35-49	13-18
			14-33	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	32-41	15-21
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Delft----------	5	B/D	0-37	Loam	ML, MH	A-7	0	0	95-100	90-100	75-90	60-80	43-62	17-24
			37-50	Clay loam, silt loam	CL	A-6	0	0	95-100	90-100	70-90	50-75	30-45	13-22
			50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L130A:														
Okoboji mucky silty clay loam, depressional---	75	C/D	0-13	Mucky silty clay loam	OH	A-7	0	0	100	100	95-100	90-95	58-82	19-23
			13-35	Silty clay loam, silty clay	MH	A-7	0	0	100	100	90-100	80-95	60-75	24-32
			35-60	Silty clay loam	CL	A-6	0	0	95-100	95-100	90-100	80-95	38-50	18-25
Okoboji silty clay loam, depressional---	15	C/D	0-26	Silty clay loam	MH, OH	A-7	0	0	100	100	90-100	80-95	55-73	25-29
			26-42	Silty clay loam, silty clay	CL, CH	A-7	0	0	100	100	90-100	80-95	46-64	25-36
			42-60	Silty clay loam	CL	A-6	0	0	95-100	95-100	90-100	80-95	37-48	18-25
Brownton--------	5	C/D	0-22	Silty clay loam	CH, MH	A-7	0	0	100	95-100	90-100	85-95	53-67	25-28
			22-38	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	95-100	90-100	85-95	46-70	25-44
			38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Spicer----------	5	B/D	0-16	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	90-100	47-62	20-24
			16-40	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-49	12-25
			40-60	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	27-45	12-25
L133A:														
Waldorf---------	80	C/D	0-15	Silty clay, silty clay loam	MH	A-7	0	0	100	100	95-100	90-100	58-71	24-32
			15-20	Silty clay loam, silty clay	MH	A-7	0	0	100	100	95-100	90-100	53-67	25-32
			20-53	Silty clay loam, clay, silty clay	CH	A-7	0	0	100	100	95-100	95-100	49-66	27-40
			53-80	Silty clay, silty clay loam, silt loam	CL, CH	A-7	0	0	100	100	95-100	90-100	34-55	17-32

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L133A:														
Marna----------	9	C/D	0-20	Silty clay loam	MH	A-7	0	0	95-100	90-100	90-100	85-95	53-76	25-35
			20-32	Clay, silty clay, silty clay loam	CH	A-7	0	0	95-100	90-100	90-100	85-95	46-70	25-44
			32-41	Silty clay loam, clay loam	CL	A-7	0	0	90-100	90-100	85-95	65-90	38-47	19-25
			41-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Chetomba--------	5	B/D	0-23	Silty clay loam	MH, ML	A-7	0	0	100	100	100	90-100	45-62	18-24
			23-31	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			31-43	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	28-45	12-25
			43-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Brownton--------	2	C/D	0-22	Silty clay loam	CH, MH	A-7	0	0	100	95-100	90-100	85-95	53-67	25-28
			22-38	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	95-100	90-100	85-95	46-70	25-44
			38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Lura, depressional---	2	C/D	0-10	Silty clay	MH, OH	A-7	0	0	100	100	95-100	90-100	62-91	32-42
			10-58	Silty clay, clay	CH	A-7	0	0	100	100	95-100	90-100	56-76	32-43
			58-72	Silty clay, silty clay loam, clay	CH, CL	A-7	0	0	100	100	95-100	90-100	39-70	20-44
Barbert---------	1	C/D	0-7	Silt loam	ML	A-6	0	0	100	100	90-100	90-100	36-51	11-18
			7-17	Silt loam	CL	A-6	0	0	100	100	90-100	90-100	28-38	12-19
			17-43	Clay, silty clay	CH	A-7	0	0	100	100	90-100	90-100	56-76	32-43
			43-60	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	90-100	90-100	27-42	12-22

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L133A:														
Ocheda----------	1	C	0-20	Silty clay loam	MH, CH	A-7	0	0	100	95-100	95-100	80-95	53-63	25-28
			20-28	Silty clay, silty clay loam, clay	CH	A-7	0	0	100	95-100	95-100	80-95	46-66	25-36
			28-57	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	90-95	44-58	24-29
			57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L134B:														
Clarion---------	56	B	0-14	Loam	ML, CL	A-6	0	0-5	95-100	95-100	75-90	50-75	35-49	13-18
			14-33	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	32-41	15-21
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Crooksford------	15	B	0-10	Silty clay loam, silt loam	ML, MH	A-6	0	0	100	100	85-100	70-90	37-53	12-21
			10-20	Silty clay loam	CL, ML	A-6	0	0	100	100	85-100	70-90	35-49	12-21
			20-26	Silt loam, silty clay loam	CL	A-6	0	0	100	100	90-100	70-90	31-45	12-21
			26-34	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	32-41	15-21
			34-80	Loam, silt loam	CL	A-6	0	0	100	95-100	85-95	70-90	30-40	12-19
Clarion, moderately eroded---------	14	B	0-10	Loam	CL	A-6	0	0-5	95-100	95-100	75-90	50-75	33-44	13-18
			10-38	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	32-41	15-21
			38-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Nicollet--------	5	B	0-10	Silty clay loam	ML, MH	A-7	0-1	0-5	95-100	90-100	85-100	55-85	45-62	18-24
			10-31	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	37-49	17-25
			31-42	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-18
			42-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Swanlake--------	5	B	0-9	Loam	CL	A-6	0	0-5	90-100	85-98	75-90	50-70	31-45	11-18
			9-43	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			43-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Terril----------	5	B	0-27	Loam	ML, CL	A-6	0	0-2	95-100	95-100	70-90	60-80	33-46	11-18
			27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	36-47	16-21
			40-63	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	30-41	15-21
			63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L135A:														
Okabena---------	85	B	0-15	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	85-100	43-57	18-22
			15-22	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	29-47	12-22
			22-43	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			43-48	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	27-42	12-22
			48-80	Loam, clay loam	CL	A-6	0	0-5	90-100	85-95	80-90	55-80	30-42	15-22
Kingston--------	5	B	0-16	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	85-100	43-57	18-22
			16-25	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	29-47	12-22
			25-60	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	27-42	12-22
Nicollet--------	4	B	0-10	Silty clay loam	ML, MH	A-7	0-1	0-5	95-100	90-100	85-100	55-85	45-62	18-24
			10-31	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	37-49	17-25
			31-42	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-18
			42-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Chetomba--------	2	B/D	0-23	Silty clay loam	MH, ML	A-7	0	0	100	100	100	90-100	45-62	18-24
			23-31	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			31-43	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	28-45	12-25
			43-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Ocheda----------	2	C	0-20	Silty clay loam	MH, CH	A-7	0	0	100	95-100	95-100	80-95	53-63	25-28
			20-28	Silty clay, silty clay loam, clay	CH	A-7	0	0	100	95-100	95-100	80-95	46-66	25-36
			28-57	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	90-95	44-58	24-29
			57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L135A:														
Waldorf---------	2	C/D	0-15	Silty clay loam, silty clay	MH	A-7	0	0	100	100	95-100	90-100	58-71	24-32
			15-20	Silty clay, silty clay loam	MH	A-7	0	0	100	100	95-100	90-100	53-67	25-32
			20-53	Silty clay, clay, silty clay loam	CH	A-7	0	0	100	100	95-100	95-100	49-66	27-40
			53-80	Silt loam, silty clay loam, silty clay	CL, CH	A-7	0	0	100	100	95-100	90-100	34-55	17-32
L136A:														
Crooksford------	80	B	0-10	Silty clay loam, silt loam	ML, MH	A-6	0	0	100	100	85-100	70-90	37-53	12-21
			10-20	Silty clay loam	CL, ML	A-6	0	0	100	100	85-100	70-90	35-49	12-21
			20-26	Silt loam, silty clay loam	CL	A-6	0	0	100	100	90-100	70-90	31-45	12-21
			26-34	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	32-41	15-21
			34-80	Loam, silt loam	CL	A-6	0	0	100	95-100	85-95	70-90	30-40	12-19
Nicollet--------	8	B	0-10	Silty clay loam	ML, MH	A-7	0-1	0-5	95-100	90-100	85-100	55-85	45-62	18-24
			10-31	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	37-49	17-25
			31-42	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-18
			42-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Clarion---------	7	B	0-14	Loam	ML, CL	A-6	0	0-5	95-100	95-100	75-90	50-75	35-49	13-18
			14-33	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	32-41	15-21
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L136A:														
Okabena---------	3	B	0-15	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	85-100	43-57	18-22
			15-22	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	29-47	12-22
			22-43	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			43-48	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	27-42	12-22
			48-80	Loam, clay loam	CL	A-6	0	0-5	90-100	85-95	80-90	55-80	30-42	15-22
Webster---------	2	B/D	0-24	Silty clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			24-45	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			45-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L137A:														
Cylinder--------	90	B	0-14	Loam	ML	A-7	0	0	100	90-100	80-100	50-75	41-49	15-19
			14-18	Loam, clay loam	CL, SC	A-6	0	0	95-100	80-100	80-95	45-70	37-47	15-21
			18-28	Loam	CL	A-6	0	0	95-100	80-100	80-95	45-70	37-47	15-21
			28-80	Gravelly sandy loam, gravelly sand, gravelly loamy sand	SP-SM, SM	A-1	0	0-10	65-95	65-95	20-55	5-25	0-25	NP-7
Biscay----------	4	B/D	0-20	Loam	MH, ML	A-6, A-7	0	0	95-100	95-100	70-95	50-80	37-58	12-21
			20-28	Loam, clay loam, sandy clay loam	CL	A-6, A-7	0	0	95-100	90-100	70-90	50-75	30-43	12-21
			28-36	Gravelly loam, sandy loam, gravelly sandy loam	SC-SM, SC	A-4	0	0-5	95-100	70-95	50-80	35-50	21-39	6-19
			36-60	Gravelly coarse sand	SP, GP, SP-SM, GP-GM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-3

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L137A:														
Wadena----------	4	B	0-13	Loam	ML	A-6	0	0	95-100	90-100	75-95	50-65	36-49	11-18
			13-20	Loam, sandy loam, sandy clay loam	CL, SC	A-6	0	0	95-100	80-100	75-95	40-60	29-45	12-21
			20-30	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	21-30	6-12
			30-60	Sand, gravelly coarse sand	SP, SP-SM, GP-GM, GP	A-1, A-2, A-3	0-3	0-5	45-100	35-100	10-80	2-10	0-19	NP-2
Linder----------	2	B	0-15	Loam	SC	A-4, A-6	0	0	100	95-100	80-95	48-80	30-39	8-13
			15-29	Sandy loam	SC-SM, SC	A-2, A-4	0	0	95-100	80-100	45-75	30-45	20-30	6-12
			29-60	Stratified gravelly coarse sand to coarse sand to loamy coarse sand, gravelly loamy sand, loamy coarse sand	SW, SP-SM	A-1	0	0-5	75-95	30-95	25-50	2-12	0-21	NP-4
L138B:														
Estherville-----	85	B	0-13	Loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	25-37	6-12
			13-18	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			18-23	Coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0	0-10	55-90	50-90	10-40	2-25	0-21	NP-4
			23-60	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0	0-10	55-90	50-85	10-40	2-25	0-21	NP-4

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L138B:														
Wadena----------	7	B	0-13	Loam	ML	A-6	0	0	55-100	50-100	50-95	50-65	36-49	11-18
			13-20	Loam, sandy loam, sandy clay loam	CL, SC	A-6	0	0	95-100	80-100	75-95	40-60	29-45	12-21
			20-30	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	21-30	6-12
			30-60	Sand, gravelly coarse sand	SP, SP-SM, GP-GM, GP	A-1, A-2, A-3	0-3	0-5	45-100	35-100	10-80	2-10	0-19	NP-2
Hawick----------	5	A	0-7	Gravelly coarse sandy loam, sandy loam	SM, SP-SM	A-1, A-2, A-3	0-2	0-5	75-95	60-95	35-70	5-35	0-29	NP-6
			7-80	Gravelly coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0-2	0-5	60-95	50-95	30-65	2-10	0-19	NP-2
Cylinder--------	3	B	0-14	Loam	ML	A-7	0	0	100	90-100	80-100	50-75	41-49	15-19
			14-18	Loam, clay loam	CL, SC	A-6	0	0	95-100	80-100	80-95	45-70	37-47	15-21
			18-28	Loam	CL	A-6	0	0	95-100	80-100	80-95	45-70	37-47	15-21
			28-80	Gravelly sandy loam, gravelly sand, gravelly loamy sand	SP-SM, SM	A-1	0	0-10	65-95	65-95	20-55	5-25	0-25	NP-7
L139A:														
Wadena----------	85	B	0-13	Loam	ML	A-6	0	0	95-100	90-100	75-95	50-65	36-49	11-18
			13-20	Loam, sandy loam, sandy clay loam	CL, SC	A-6	0	0	95-100	80-100	75-95	40-60	29-45	12-21
			20-30	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	21-30	6-12
			30-60	Sand, gravelly coarse sand	SP, SP-SM, GP-GM, GP	A-1, A-2, A-3	0-3	0-5	45-100	35-100	10-80	2-10	0-19	NP-2

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L139A:														
Estherville-----	5	B	0-13	Loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	25-37	6-12
			13-18	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			18-23	Coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0	0-10	55-90	50-90	10-40	2-25	0-21	NP-4
			23-60	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0	0-10	55-90	50-85	10-40	2-25	0-21	NP-4
Kanaranzi-------	5	B	0-7	Loam	CL, ML	A-6	0	0	95-100	95-100	80-95	60-85	34-49	12-18
			7-20	Silt loam, loam	CL	A-6	0	0	95-100	95-100	80-95	60-85	30-44	12-21
			20-80	Gravelly sand, gravelly coarse sand, very gravelly coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2
Cylinder--------	3	B	0-14	Loam	ML	A-7	0	0	100	90-100	80-100	50-75	41-49	15-19
			14-18	Loam, clay loam	CL, SC	A-6	0	0	95-100	80-100	80-95	45-70	37-47	15-21
			18-28	Loam	CL	A-6	0	0	95-100	80-100	80-95	45-70	37-47	15-21
			28-80	Gravelly sandy loam, gravelly sand, gravelly loamy sand	SP-SM, SM	A-1	0	0-10	65-95	65-95	20-55	5-25	0-25	NP-7
Dickinson-------	2	B	0-14	Fine sandy loam	SC-SM, SC	A-2, A-4	0	0	100	100	85-95	30-50	22-33	6-12
			14-39	Fine sandy loam, sandy loam	SC, SC-SM	A-4	0	0	100	100	85-95	35-50	21-28	6-10
			39-60	Sand, loamy fine sand, loamy sand	SM	A-2	0	0	100	100	70-90	5-20	15-23	1-6

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L139B:														
Wadena----------	85	B	0-13	Loam	ML	A-6	0	0	95-100	90-100	75-95	50-65	36-49	11-18
			13-20	Loam, sandy loam, sandy clay loam	CL, SC	A-6	0	0	95-100	80-100	75-95	40-60	29-45	12-21
			20-30	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	21-30	6-12
			30-60	Sand, gravelly coarse sand	SP, SP-SM, GP-GM, GP	A-1, A-2, A-3	0-3	0-5	45-100	35-100	10-80	2-10	0-19	NP-2
Estherville-----	7	B	0-13	Loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	25-37	6-12
			13-18	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			18-23	Coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0	0-10	55-90	50-90	10-40	2-25	0-21	NP-4
			23-60	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0	0-10	55-90	50-85	10-40	2-25	0-21	NP-4
Cylinder--------	3	B	0-14	Loam	ML	A-7	0	0	100	90-100	80-100	50-75	41-49	15-19
			14-18	Loam, clay loam	CL, SC	A-6	0	0	95-100	80-100	80-95	45-70	37-47	15-21
			18-28	Loam	CL	A-6	0	0	95-100	80-100	80-95	45-70	37-47	15-21
			28-80	Gravelly sandy loam, gravelly sand, gravelly loamy sand	SP-SM, SM	A-1	0	0-10	65-95	65-95	20-55	5-25	0-25	NP-7
Dickinson-------	3	B	0-14	Fine sandy loam	SC-SM, SC	A-2, A-4	0	0	100	100	85-95	30-50	22-33	6-12
			14-39	Fine sandy loam, sandy loam	SC, SC-SM	A-4	0	0	100	100	85-95	35-50	21-28	6-10
			39-60	Sand, loamy fine sand, loamy sand	SM	A-2	0	0	100	100	70-90	5-20	15-23	1-6

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L139B:														
Biscay----------	2	B/D	0-20	Loam	MH, ML	A-6, A-7	0	0	95-100	95-100	70-95	50-80	37-58	12-21
			20-28	Loam, clay loam, sandy clay loam	CL	A-6, A-7	0	0	95-100	90-100	70-90	50-75	30-43	12-21
			28-36	Gravelly loam, sandy loam, gravelly sandy loam	SC-SM, SC	A-4	0	0-5	95-100	70-95	50-80	35-50	21-39	6-19
			36-60	Gravelly coarse sand	SP, GP, SP-SM, GP-GM	A-1	0	0-5	45-95	35-95	20-45	2-10	0-20	NP-3
L140A:														
Ocheda----------	85	C	0-20	Silty clay loam	MH, CH	A-7	0	0	100	95-100	95-100	80-95	53-63	25-28
			20-28	Silty clay, silty clay loam, clay	CH	A-7	0	0	100	95-100	95-100	80-95	46-66	25-36
			28-57	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	90-95	44-58	24-29
			57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Guckeen---------	5	C	0-15	Silty clay loam	MH, CH	A-7	0	0	100	95-100	95-100	80-95	53-63	25-28
			15-24	Silty clay, silty clay loam, clay	CH	A-7	0	0	100	95-100	95-100	80-95	46-63	25-36
			24-30	Clay loam, loam	CL	A-6, A-7	0	0-2	90-100	90-98	85-95	60-75	34-51	16-29
			30-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Collinwood------	3	C	0-16	Silty clay loam	MH	A-7	0	0	100	100	95-100	90-95	54-66	24-28
			16-32	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	90-95	47-76	25-43
			32-60	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	90-95	45-59	25-33
Nicollet--------	3	B	0-10	Silty clay loam	ML, MH	A-7	0-1	0-5	95-100	90-100	85-100	55-85	45-62	18-24
			10-31	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	37-49	17-25
			31-42	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-18
			42-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L140A:														
Clarion---------	2	B	0-14	Loam	ML, CL	A-6	0	0-5	95-100	95-100	75-90	50-75	35-49	13-18
			14-33	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	32-41	15-21
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Marna----------	2	C/D	0-20	Silty clay loam	MH	A-7	0	0	95-100	90-100	90-100	85-95	53-76	25-35
			20-32	Clay, silty clay, silty clay loam	CH	A-7	0	0	95-100	90-100	90-100	85-95	46-70	25-44
			32-41	Silty clay loam, clay loam	CL	A-7	0	0	90-100	90-100	85-95	65-90	38-47	19-25
			41-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L141A:														
Spillville, occasionally flooded--------	86	B	0-51	Loam	ML	A-6	0	0	100	95-100	85-95	60-80	37-50	12-18
			51-60	Sandy clay loam, loam, sandy loam	SC, CL, SC-SM	A-4, A-6	0	0	100	95-100	80-90	35-75	28-40	9-16
Coland, occasionally flooded--------	8	B/D	0-25	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	65-80	47-60	18-24
			25-54	Loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	65-80	37-50	15-19
			54-60	Loam, sandy loam, sandy clay loam	CL-ML, SC-SM, SC, CL	A-4, A-6	0	0	100	90-100	60-70	40-60	22-37	7-18
Hanlon, occasionally flooded--------	4	B	0-24	Fine sandy loam	SC, SC-SM	A-4	0	0	100	100	75-80	35-50	26-35	7-12
			24-52	Fine sandy loam, sandy loam	SC, SC-SM	A-4	0	0	100	100	75-80	35-50	24-33	7-12
			52-57	Sandy loam, fine sandy loam, loamy fine sand	SC-SM, SM	A-2, A-4	0	0	100	100	75-80	25-40	18-26	2-6
			57-80	Stratified fine sand to loamy fine sand to fine sandy loam, sandy loam, loamy sand	CL-ML, CL, SC, SC-SM, SM	A-2, A-4	0	0	100	100	80-90	20-60	0-31	NP-12

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L141A:														
Havelock, occasionally flooded--------	2	B/D	0-23	Clay loam	MH	A-7	0	0	100	100	95-100	65-85	49-61	19-25
			23-35	Clay loam, silty clay loam	CH, CL	A-6	0	0	100	100	95-100	65-85	40-51	19-25
			35-60	Stratified loam to silt loam to clay loam, sandy loam, sandy clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	100	90-100	60-70	40-60	22-38	7-19
L144A:														
Chetomba--------	75	B/D	0-23	Silty clay loam	MH, ML	A-7	0	0	100	100	100	90-100	45-62	18-24
			23-31	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			31-43	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	28-45	12-25
			43-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Waldorf---------	13	C/D	0-15	Silty clay, silty clay loam	MH	A-7	0	0	100	100	95-100	90-100	58-71	24-32
			15-20	Silty clay loam, silty clay	MH	A-7	0	0	100	100	95-100	90-100	53-67	25-32
			20-53	Silty clay loam, clay, silty clay	CH	A-7	0	0	100	100	95-100	95-100	49-66	27-40
			53-80	Silty clay, silty clay loam, silt loam	CL, CH	A-7	0	0	100	100	95-100	90-100	34-55	17-32
Webster---------	5	B/D	0-24	Silty clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			24-45	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			45-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L144A:														
Okoboji, depressional---	3	C/D	0-26	Silty clay loam	MH, OH	A-7	0	0	100	100	90-100	80-95	55-73	25-29
			26-42	Silty clay	CH	A-7	0	0	100	100	90-100	80-95	49-59	27-33
			42-60	Silty clay loam	CL	A-6	0	0	95-100	95-100	90-100	80-95	40-48	20-25
Prinsburg-------	3	B/D	0-19	Silty clay loam	MH, ML	A-7	0	0	100	100	100	90-100	45-62	18-24
			19-29	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			29-46	Silt loam, silty clay loam	CL	A-6	0	0	100	100	100	90-100	28-45	12-25
			46-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Okabena---------	1	B	0-15	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	85-100	43-57	18-22
			15-22	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	29-47	12-22
			22-43	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			43-48	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	27-42	12-22
			48-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L145A:														
Canisteo--------	80	B/D	0-17	Silty clay loam	ML, MH	A-7	0	0	95-100	95-100	85-100	60-100	45-62	18-24
			17-27	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	98-100	90-100	85-100	65-95	39-53	17-25
			27-60	Clay loam, loam	CL	A-6	0	0-5	95-100	90-98	80-95	50-75	30-40	15-21
Glencoe, depressional---	10	B/D	0-10	Silty clay loam	OL, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			10-29	Silty clay loam, clay loam, loam	CL, ML	A-6, A-7	0	0	95-100	90-100	75-100	60-90	39-55	17-25
			29-40	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	36-49	17-25
			40-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L145A:														
Webster---------	5	B/D	0-24	Silty clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			24-45	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			45-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Prinsburg-------	4	B/D	0-19	Silty clay loam	MH, ML	A-7	0	0	100	100	100	90-100	45-62	18-24
			19-29	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			29-46	Silt loam, silty clay loam	CL	A-6	0	0	100	100	100	90-100	28-45	12-25
			46-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Crippin---------	1	B	0-15	Loam	ML	A-7	0	0	95-100	95-100	80-90	60-80	41-49	14-18
			15-27	Loam, clay loam	CL	A-6	0	0-5	95-100	90-100	80-90	60-80	34-45	16-21
			27-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L146A:														
Glencoe, depressional---	80	B/D	0-10	Silty clay loam	OL, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			10-29	Silty clay loam, clay loam, loam	CL, ML	A-6, A-7	0	0	95-100	90-100	75-100	60-90	39-55	17-25
			29-40	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	36-49	17-25
			40-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Canisteo--------	10	B/D	0-18	Clay loam	ML, MH	A-7	0	0	95-100	95-100	85-100	60-100	45-60	18-24
			18-39	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-18
			39-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Harps----------	10	B/D	0-13	Clay loam	MH, ML	A-7	0	0-5	95-100	95-100	80-90	65-80	43-55	18-25
			13-30	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			30-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L150A:														
Prinsburg-------	75	B/D	0-19	Silty clay loam	MH, ML	A-7	0	0	100	100	100	90-100	45-62	18-24
			19-29	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			29-46	Silt loam, silty clay loam	CL	A-6	0	0	100	100	100	90-100	28-45	12-25
			46-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Chetomba--------	14	B/D	0-23	Silty clay loam	MH, ML	A-7	0	0	100	100	100	90-100	45-62	18-24
			23-31	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			31-43	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	28-45	12-25
			43-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Webster---------	4	B/D	0-24	Silty clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			24-45	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			45-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Canisteo--------	3	B/D	0-17	Silty clay loam	ML, MH	A-7	0	0	95-100	95-100	85-100	60-100	45-62	18-24
			17-27	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	98-100	90-100	85-100	65-95	39-53	17-25
			27-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Okabena---------	2	B	0-15	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	85-100	43-57	18-22
			15-22	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	29-47	12-22
			22-43	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			43-48	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	27-42	12-22
			48-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L150A:														
Okoboji, depressional---	2	C/D	0-26	Silty clay loam	MH, OH	A-7	0	0	100	100	90-100	80-95	55-73	25-29
			26-42	Silty clay	CH	A-7	0	0	100	100	90-100	80-95	49-59	27-33
			42-60	Silty clay loam	CL	A-6	0	0	95-100	95-100	90-100	80-95	40-48	20-25
L151A:														
Glencoe, ponded	80	B/D	0-42	Mucky silty clay loam	OH	A-7	0	0	95-100	90-100	75-100	60-90	58-82	18-23
			42-50	Loam, clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	39-57	17-24
			50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Okoboji, ponded	14	C/D	0-10	Mucky silty clay loam	OH	A-7	0	0	100	100	95-100	90-95	60-86	20-27
			10-52	Silty clay loam, silty clay	CH	A-7	0	0	100	100	90-100	80-95	53-71	25-32
			52-60	Silty clay loam, silty clay	CH	A-7	0	0	95-100	95-100	90-100	80-95	46-57	25-33
Klossner, ponded	6	A/D	0-26	Muck	PT	A-8	0	0	100	100	80-100	60-100	---	---
			26-33	Silt loam, silty clay loam, mucky silt loam	MH	A-7	0	0	100	95-100	90-100	85-95	54-86	14-23
			33-40	Clay loam, loam, silty clay loam	MH, ML	A-7	0	0	95-100	90-100	80-100	60-90	43-66	15-24
			40-80	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	85-100	60-95	55-80	26-53	10-22
L152B:														
Lowlein---------	60	B	0-14	Loam, sandy loam	SM, SC-SM	A-4	0	0	90-100	85-100	60-75	35-50	27-40	6-12
			14-24	Loam, sandy loam, fine sandy loam	SC-SM	A-4	0	0	90-100	85-100	60-90	35-50	22-33	6-12
			24-31	Loamy sand, sand, fine sand	SM, SP-SM	A-2, A-3	0	0	90-100	85-100	50-75	5-35	0-24	NP-6
			31-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L152B:														
Round Lake------	20	B	0-11	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-35	2-10
			11-14	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			14-26	Loamy sand, coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0-5	0-15	55-90	50-90	10-40	2-25	0-21	NP-4
			26-35	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0-5	0-15	55-90	50-85	10-40	2-25	0-21	NP-4
			35-48	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0-5	0-15	55-90	50-90	10-40	2-25	0-21	NP-4
			48-80	Loam, silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	27-45	12-25
Nicollet--------	12	B	0-17	Clay loam	MH, ML	A-7	0-1	0-5	95-100	90-100	85-100	55-85	45-62	18-24
			17-33	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	36-49	17-25
			33-36	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	35-47	17-25
			36-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Farrar----------	6	B	0-16	Fine sandy loam	SC-SM, SC	A-2, A-4	0	0	100	100	85-95	25-45	22-33	6-12
			16-25	Fine sandy loam	SC-SM, SC	A-2, A-4	0	0	100	100	85-95	25-45	21-29	6-10
			25-41	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	27-35	12-16
			41-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Webster---------	2	B/D	0-19	Clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			19-26	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			26-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L153A:														
Essexville------	85	A/D	0-8	Sandy loam	SC-SM, SM	A-4	0	0	100	95-100	60-90	35-50	31-46	7-12
			8-13	Loamy sand, sand, loamy fine sand, fine sand	SM, SP-SM, SC-SM	A-1-b, A-2-4, A-3, A-4, A-2	0	0	90-100	80-100	40-85	5-45	0-30	NP-7
			13-22	Sand, loamy fine sand, fine sand	SM, SP-SM, SC-SM	A-1-b, A-2-4, A-3, A-4, A-2	0	0	90-100	80-100	40-85	5-45	0-26	NP-7
			22-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Canisteo--------	5	B/D	0-18	Clay loam	MH, ML	A-7	0	0	95-100	95-100	85-100	60-100	45-60	18-24
			18-39	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-18
			39-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Glencoe, depressional---	4	B/D	0-10	Clay loam	MH, ML, OL	A-7	0	0	95-100	90-100	75-100	60-90	47-66	18-24
			10-35	Silty clay loam, clay loam, loam	CL, ML	A-6, A-7	0	0	95-100	90-100	75-100	60-90	39-55	17-25
			35-48	Loam, clay loam, silty clay loam	CL	A-6	0	0	95-100	90-100	75-100	60-90	36-49	17-25
			48-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Belleville------	3	B/D	0-11	Sandy loam	SC-SM, SM	A-4	0	0	100	95-100	60-90	35-50	28-42	7-12
			11-27	Loamy sand, fine sand, sand	SC-SM, SM, SP-SM	A-1-b, A-2-4, A-3, A-4	0	0	90-100	80-100	40-85	5-45	0-25	NP-7
			27-48	Loam, clay loam, silty clay loam	CL	A-6	0-1	0-2	95-100	90-98	80-95	55-90	31-42	13-21
			48-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Very poorly drained soils in depressions	2	B/D	0-13	Loam	MH, ML, OL	A-7	0	0	95-100	90-100	75-100	60-90	45-59	17-18
			13-31	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	33-55	12-25
			31-45	Sandy loam, clay loam, silty clay loam	SC, CL	A-4, A-6	0	0	90-100	85-100	60-95	45-90	27-49	10-25
			45-80	Clay loam, loam, sandy loam	SC, CL	A-4, A-6	0-1	0-2	85-100	75-95	60-90	40-90	25-39	9-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L153A:														
Somewhat poorly drained soils--	1	B	0-10	Loamy sand	SM	A-2	0	0-1	98-100	95-100	70-90	15-35	0-27	NP-3
			10-24	Gravelly loamy sand, sand, fine sand, loamy sand	SP-SM, SP	A-2	0	0-1	98-100	95-100	65-90	4-25	0-21	NP-3
			24-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L154E:														
Belview---------	60	B	0-9	Loam	ML, CL	A-6	0	0-5	95-100	95-98	75-95	60-75	33-47	11-18
			9-50	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Ridgeton--------	22	B	0-32	Loam	ML, CL	A-6	0	0-2	95-100	95-100	70-90	60-80	33-53	11-17
			32-40	Clay loam, loam	CL	A-7, A-6	0	0-2	95-100	90-100	65-95	50-85	30-41	15-21
			40-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Omsrud----------	14	B	0-16	Loam	CL	A-6	0	0-5	95-100	90-98	85-95	55-75	33-44	13-18
			16-26	Loam, clay loam	CL	A-6	0	0-5	90-100	85-98	75-95	55-80	32-43	15-21
			26-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Delft----------	2	B/D	0-37	Loam	ML, MH	A-7	0	0	95-100	90-100	75-90	60-80	43-62	17-24
			37-50	Clay loam, silt loam	CL	A-6	0	0	95-100	90-100	70-90	50-75	30-45	13-22
			50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Terril----------	2	B	0-24	Loam	ML, CL	A-6	0	0-2	95-100	95-100	70-90	60-80	33-46	11-18
			24-37	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	36-47	16-21
			37-57	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	30-41	15-21
			57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L155A:														
Okoboji, ponded	85	C/D	0-10	Mucky silty clay loam	OH	A-7	0	0	100	100	95-100	90-95	60-86	20-27
			10-52	Silty clay loam, silty clay	CH	A-7	0	0	100	100	90-100	80-95	53-71	25-32
			52-60	Silty clay loam, silty clay	CH	A-7	0	0	95-100	95-100	90-100	80-95	46-57	25-33

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L155A:														
Glencoe, ponded	10	B/D	0-42	Mucky silty clay loam, silty clay loam	OH, MH	A-7	0	0	95-100	90-100	75-100	60-90	58-82	18-23
			42-50	Loam, clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	90-100	75-100	60-90	39-57	17-24
			50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Blue Earth, ponded---------	3	B/D	0-50	Mucky silt loam	OH	A-7	0	0	95-100	95-100	85-95	80-95	50-95	11-21
			50-60	Silty clay loam, clay loam, silt loam	OL	A-7	0	0	95-100	80-100	80-95	80-95	49-93	11-20
Klossner, ponded	2	A/D	0-26	Muck	PT	A-8	0	0	100	100	80-100	60-100	---	---
			26-33	Silt loam, silty clay loam, mucky silt loam	MH	A-7	0	0	100	95-100	90-100	85-95	54-86	14-23
			33-40	Clay loam, loam, silty clay loam	MH, ML	A-7	0	0	95-100	90-100	80-100	60-90	43-66	15-24
			40-80	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	85-100	60-95	55-80	26-53	10-22
L156C2:														
Omsrud, moderately eroded---------	44	B	0-9	Loam	CL	A-6	0	0-2	95-100	90-98	85-95	55-75	33-44	13-18
			9-19	Loam, clay loam	CL	A-6	0	0-2	95-100	90-98	75-95	55-80	32-43	15-21
			19-36	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			36-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Storden, moderately eroded---------	24	B	0-7	Loam	CL	A-6	0	0-5	95-100	95-98	75-95	60-75	29-41	12-19
			7-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L156C2:														
Pilot Grove-----	20	B	0-9	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-35	2-10
			9-17	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			17-21	Loamy sand, coarse sand, gravelly loamy coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0-5	0-15	55-90	50-90	10-40	2-25	0-21	NP-4
			21-58	Loamy sand, sand, coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0-5	0-15	55-90	50-85	10-40	2-25	0-21	NP-4
			58-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Hawick----------	8	A	0-7	Gravelly sandy loam, sandy loam	SM, SP-SM	A-3, A-1, A-2	0-2	0-5	75-95	60-95	35-70	5-35	0-29	NP-6
			7-80	Gravelly coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0-2	0-5	60-95	50-95	30-65	2-10	0-19	NP-2
Delft----------	2	B/D	0-37	Loam	ML, MH	A-7	0	0	95-100	90-100	75-90	60-80	43-62	17-24
			37-50	Clay loam, silt loam	CL	A-6	0	0	95-100	90-100	70-90	50-75	30-45	13-22
			50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Terril----------	2	B	0-27	Loam	ML, CL	A-6	0	0-2	95-100	95-100	70-90	60-80	33-46	11-18
			27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	36-47	16-21
			40-63	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	30-41	15-21
			63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L156D2:														
Omsrud, moderately eroded---------	50	B	0-9	Loam	CL	A-6	0	0-2	95-100	90-98	85-95	55-75	33-44	13-18
			9-19	Loam, clay loam	CL	A-6	0	0-2	95-100	90-98	75-95	55-80	32-43	15-21
			19-36	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			36-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L156D2:														
Storden, moderately eroded---------	25	B	0-7	Loam	CL	A-6	0	0-5	95-100	95-98	75-95	60-75	29-41	12-19
			7-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Pilot Grove-----	15	B	0-9	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-35	2-10
			9-17	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			17-21	Loamy sand, coarse sand, gravelly loamy coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0-5	0-15	55-90	50-90	10-40	2-25	0-21	NP-4
			21-58	Loamy sand, sand, coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0-5	0-15	55-90	50-85	10-40	2-25	0-21	NP-4
			58-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Hawick----------	4	A	0-7	Gravelly coarse sandy loam, sandy loam	SM, SP-SM	A-3, A-1, A-2	0-2	0-5	75-95	60-95	35-70	5-35	0-29	NP-6
			7-80	Gravelly coarse sand, coarse sand, sand	SP-SM, SP	A-1, A-2, A-3	0-2	0-5	60-95	50-95	30-65	2-10	0-19	NP-2
Ridgeton--------	2	B	0-23	Loam	ML, CL	A-6	0	0-2	95-100	95-100	70-90	60-80	33-46	11-18
			23-38	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	36-47	16-21
			38-50	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	32-44	15-21
			50-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Delft----------	2	B/D	0-37	Loam	ML, MH	A-7	0	0	95-100	90-100	75-90	60-80	43-62	17-24
			37-50	Clay loam, silt loam	CL	A-6	0	0	95-100	90-100	70-90	50-75	30-45	13-22
			50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Terril----------	2	B	0-27	Loam	ML, CL	A-6	0	0-2	95-100	95-100	70-90	60-80	33-46	11-18
			27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	36-47	16-21
			40-63	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	30-41	15-21
			63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L157A:														
Lowlein---------	78	B	0-14	Loam, sandy loam	SM, SC-SM	A-4	0	0	90-100	85-100	60-75	35-50	27-40	6-12
			14-24	Loam, sandy loam, fine sandy loam	SC-SM	A-4	0	0	90-100	85-100	60-90	35-50	22-33	6-12
			24-31	Loamy sand, sand, fine sand	SM, SP-SM	A-2, A-3	0	0	90-100	85-100	50-75	5-35	0-24	NP-6
			31-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Nicollet--------	14	B	0-17	Clay loam	MH, ML	A-7	0-1	0-5	95-100	90-100	85-100	55-85	45-62	18-24
			17-33	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	36-49	17-25
			33-36	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	35-47	17-25
			36-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Round Lake------	4	B	0-11	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-35	2-10
			11-14	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			14-26	Gravelly coarse sand, loamy sand, sand, coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0-5	0-15	55-90	50-90	10-40	2-25	0-21	NP-4
			26-35	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0-5	0-15	55-90	50-85	10-40	2-25	0-21	NP-4
			35-48	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0-5	0-15	55-90	50-90	10-40	2-25	0-21	NP-4
			48-80	Loam, silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	27-45	12-25

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L157A:														
Webster---------	2	B/D	0-19	Clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			19-26	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			26-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Farrar----------	2	B	0-16	Fine sandy loam	SC-SM, SC	A-2, A-4	0	0	100	100	85-95	25-45	22-33	6-12
			16-25	Fine sandy loam	SC-SM, SC	A-2, A-4	0	0	100	100	85-95	25-45	21-29	6-10
			25-41	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	27-35	12-16
			41-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L158B:														
Round Lake------	80	B	0-11	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-35	2-10
			11-14	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			14-26	Loamy sand, coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0-5	0-15	55-90	50-90	10-40	2-25	0-21	NP-4
			26-35	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0-5	0-15	55-90	50-85	10-40	2-25	0-21	NP-4
			35-48	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0-5	0-15	55-90	50-90	10-40	2-25	0-21	NP-4
			48-80	Loam, silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	27-45	12-25
Lowlein---------	13	B	0-14	Sandy loam	SM, SC-SM	A-4	0	0	90-100	85-100	60-75	35-50	27-40	6-12
			14-24	Sandy loam, fine sandy loam	SC-SM	A-4	0	0	90-100	85-100	60-90	35-50	22-33	6-12
			24-31	Loamy sand, sand, fine sand	SM, SP-SM	A-2, A-3	0	0	90-100	85-100	50-75	5-35	0-24	NP-6
			31-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L158B:														
Ocheyedan-------	3	B	0-10	Loam	ML, CL	A-6	0	0	100	100	75-90	65-80	39-49	16-18
			10-30	Sandy clay loam, fine sandy loam, loam	SC-SM, SC, CL	A-4, A-6	0	0	100	100	60-80	35-55	25-36	9-16
			30-60	Stratified loam to silt loam, sandy clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-95	50-90	22-35	7-16
Estherville-----	2	B	0-13	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-35	2-10
			13-18	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			18-23	Coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0	0-10	55-90	50-90	10-40	2-25	0-21	NP-4
			23-60	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0	0-10	55-90	50-85	10-40	2-25	0-21	NP-4
Webster---------	2	B/D	0-19	Clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			19-26	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			26-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L159A:														
Knoke, depressional---	85	B/D	0-10	Mucky silty clay loam, silty clay loam	OH	A-7	0	0	100	100	85-100	85-95	59-85	18-24
			10-42	Silty clay loam, mucky silty clay loam	OH, MH, CH	A-7	0	0	100	100	90-100	80-95	53-67	25-32
			42-80	Silty clay loam, silt loam, clay loam	CH, MH	A-7	0	0	95-100	95-100	90-100	80-95	41-55	17-25

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L159A:														
Okoboji, depressional---	5	C/D	0-26	Silty clay loam	MH, OH	A-7	0	0	100	100	90-100	80-95	55-73	25-29
			26-42	Silty clay loam, silty clay	CL, CH	A-7	0	0	100	100	90-100	80-95	46-64	25-36
			42-60	Silty clay loam	CL	A-6	0	0	95-100	95-100	90-100	80-95	37-48	18-25
Essexville------	4	A/D	0-8	Sandy loam	SC-SM, SM	A-4	0	0	100	95-100	60-90	35-50	31-46	7-12
			8-13	Loamy sand, sand, loamy fine sand, fine sand	SM, SP-SM, SC-SM	A-1-b, A-2-4, A-3, A-4, A-2	0	0	90-100	80-100	40-85	5-45	0-30	NP-7
			13-22	Sand, loamy fine sand, fine sand	SM, SP-SM, SC-SM	A-1-b, A-2-4, A-3, A-4, A-2	0	0	90-100	80-100	40-85	5-45	0-26	NP-7
			22-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Canisteo--------	3	B/D	0-18	Clay loam	ML, MH	A-7	0	0	95-100	95-100	85-100	60-100	45-60	18-24
			18-39	Clay loam, loam	CL	A-6	0-1	0-2	95-100	80-98	75-90	50-75	30-40	12-18
			39-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Canisteo, depressional---	3	B/D	0-17	Silty clay loam	MH, ML	A-7	0	0	95-100	95-100	85-100	60-100	45-59	18-22
			17-30	Clay loam, loam, silty clay loam	CL	A-6	0	0-5	95-100	90-100	85-95	65-85	35-53	13-25
			30-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L160B:														
Dickinson, loamy substratum-----	85	B	0-16	Sandy loam, fine sandy loam	SC-SM, SC	A-2, A-4	0	0	100	100	85-95	30-50	22-33	6-12
			16-30	Fine sandy loam, sandy loam	SC, SC-SM	A-4	0	0	100	100	85-95	35-50	21-28	6-10
			30-47	Sand, loamy fine sand, loamy sand	SM	A-2	0	0	100	100	70-90	5-20	15-23	1-6
			47-76	Sand, loamy fine sand, loamy sand	SM	A-2	0	0	100	100	70-90	5-20	15-23	1-6
			76-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L160B:														
Farrar----------	8	B	0-16	Fine sandy loam	SC-SM, SC	A-2, A-4	0	0	100	100	85-95	25-45	22-33	6-12
			16-25	Fine sandy loam	SC-SM, SC	A-2, A-4	0	0	100	100	85-95	25-45	21-29	6-10
			25-41	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	27-35	12-16
			41-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Lowlein---------	7	B	0-14	Sandy loam	SM, SC-SM	A-4	0	0	90-100	85-100	60-75	35-50	27-40	6-12
			14-24	Sandy loam, fine sandy loam	SC-SM	A-4	0	0	90-100	85-100	60-90	35-50	22-33	6-12
			24-31	Loamy sand, sand, fine sand	SM, SP-SM	A-2, A-3	0	0	90-100	85-100	50-75	5-35	0-24	NP-6
			31-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L161C:														
Estherville-----	38	B	0-13	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-35	2-10
			13-18	Sandy loam, loam, coarse sandy loam	SC, SC-SM	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			18-23	Coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0	0-10	55-90	50-90	10-40	2-25	0-21	NP-4
			23-60	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0	0-10	55-90	50-85	10-40	2-25	0-21	NP-4

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L161C:														
Pilot Grove-----	38	B	0-9	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-35	2-10
			9-17	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			17-22	Loamy sand, coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0-5	0-15	55-90	50-90	10-40	2-25	0-21	NP-4
			22-39	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0-5	0-15	55-90	50-85	10-40	2-25	0-21	NP-4
			39-55	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0-5	0-15	55-90	50-85	10-40	2-25	0-21	NP-4
			55-80	Loam, silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	27-45	12-25
Well drained soils----------	15	B	0-8	Loam	ML, CL	A-6	0	0	100	100	75-90	65-80	39-49	16-18
			8-28	Sandy clay loam, fine sandy loam, loam	SC-SM, SC, CL	A-4, A-6	0	0	100	100	60-80	35-55	25-36	9-16
			28-80	Stratified loam to silt loam, sandy clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-95	50-90	22-35	7-16
Hawick----------	5	A	0-7	Gravelly sandy loam, sandy loam	SM, SP-SM	A-3, A-1, A-2	0-2	0-5	75-95	60-95	35-70	5-35	0-29	NP-6
			7-80	Gravelly coarse sand, coarse sand, sand	SP, SP-SM	A-1, A-2, A-3	0-2	0-5	60-95	50-95	30-65	2-10	0-19	NP-2

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L161C:														
Delft----------	2	B/D	0-37	Loam	ML, MH	A-7	0	0	95-100	90-100	75-90	60-80	43-62	17-24
			37-50	Clay loam, silt loam	CL	A-6	0	0	95-100	90-100	70-90	50-75	30-45	13-22
			50-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Terril----------	2	B	0-27	Loam	ML, CL	A-6	0	0-2	95-100	95-100	70-90	60-80	33-46	11-18
			27-40	Loam, clay loam	CL	A-6	0	0-3	95-100	90-100	70-90	60-80	36-47	16-21
			40-63	Clay loam, loam	CL	A-6	0	0-2	95-100	90-100	65-95	50-85	30-41	15-21
			63-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
L162B:														
Clarion---------	45	B	0-14	Loam	ML, CL	A-6	0	0-5	95-100	95-100	75-90	50-75	35-49	13-18
			14-33	Loam	CL	A-6	0	0-5	90-100	85-100	75-90	50-75	32-41	15-21
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Round Lake------	30	B	0-11	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-35	2-10
			11-14	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			14-26	Loamy sand, coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0-5	0-15	55-90	50-90	10-40	2-25	0-21	NP-4
			26-35	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0-5	0-15	55-90	50-85	10-40	2-25	0-21	NP-4
			35-48	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0-5	0-15	55-90	50-90	10-40	2-25	0-21	NP-4
			48-80	Loam, silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	27-45	12-25

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L162B:														
Estherville-----	8	B	0-13	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-35	2-10
			13-18	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			18-23	Coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0	0-10	55-90	50-90	10-40	2-25	0-21	NP-4
			23-60	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0	0-10	55-90	50-85	10-40	2-25	0-21	NP-4
Lowlein---------	5	B	0-14	Sandy loam	SM, SC-SM	A-4	0	0	90-100	85-100	60-75	35-50	27-40	6-12
			14-24	Sandy loam, fine sandy loam	SC-SM	A-4	0	0	90-100	85-100	60-90	35-50	22-33	6-12
			24-31	Loamy sand, sand, fine sand	SM, SP-SM	A-2, A-3	0	0	90-100	85-100	50-75	5-35	0-24	NP-6
			31-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Nicollet--------	5	B	0-17	Clay loam	MH, ML	A-7	0-1	0-5	95-100	90-100	85-100	55-85	45-62	18-24
			17-33	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	36-49	17-25
			33-36	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	95-100	90-100	80-95	55-80	35-47	17-25
			36-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Swanlake--------	5	B	0-9	Loam	CL	A-6	0	0-5	90-100	85-98	75-90	50-70	31-45	11-18
			9-43	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
			43-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Webster---------	2	B/D	0-19	Clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			19-26	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			26-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L163A:														
Okoboji, depressional---	92	C/D	0-26	Silty clay loam	MH, OH	A-7	0	0	100	100	90-100	80-95	55-73	25-29
			26-42	Silty clay loam, silty clay	CL, CH	A-7	0	0	100	100	90-100	80-95	46-64	25-36
			42-60	Silty clay loam	CL	A-6	0	0	95-100	95-100	90-100	80-95	37-48	18-25
Canisteo--------	2	B/D	0-17	Silty clay loam	MH, ML	A-7	0	0	95-100	95-100	85-100	60-100	45-62	18-24
			17-27	Clay loam, loam, silty clay loam	CL	A-6, A-7	0	0	98-100	90-100	85-100	65-95	39-53	17-25
			27-60	Clay loam, loam	CL	A-6	0	0-5	95-100	90-98	80-95	50-75	30-40	15-21
Harpster--------	2	B/D	0-10	Silty clay loam	ML, MH	A-7	0	0	100	95-100	95-100	90-100	47-57	18-24
			10-18	Silty clay loam	CL	A-7, A-6	0	0	100	95-100	95-100	90-100	38-47	19-25
			18-40	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	95-100	95-100	85-100	33-47	15-25
			40-60	Silty clay loam, silt loam, loam	CL	A-6	0	0	100	95-100	95-100	70-100	32-40	15-20
Knoke, depressional---	2	B/D	0-10	Mucky silty clay loam, silty clay loam	OH	A-7	0	0	100	100	85-100	85-95	59-85	18-24
			10-42	Silty clay loam, mucky silty clay loam	OH, MH, CH	A-7	0	0	100	100	90-100	80-95	53-67	25-32
			42-80	Silt loam, silty clay loam, clay loam	MH, CH	A-7	0	0	95-100	95-100	90-100	80-95	41-55	17-25
Prinsburg-------	2	B/D	0-19	Silty clay loam	MH, ML	A-7	0	0	100	100	100	90-100	45-62	18-24
			19-29	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	31-49	12-25
			29-46	Silt loam, silty clay loam	CL	A-6	0	0	100	100	100	90-100	28-45	12-25
			46-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L170B:														
Estherville-----	50	B	0-13	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-35	2-10
			13-18	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			18-23	Coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0	0-10	55-90	50-90	10-40	2-25	0-21	NP-4
			23-60	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0	0-10	55-90	50-85	10-40	2-25	0-21	NP-4
Round Lake------	45	B	0-11	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-5	90-100	80-100	50-75	25-50	20-35	2-10
			11-14	Sandy loam, loam, coarse sandy loam	SC-SM, SC	A-1, A-2, A-4	0	0-5	85-100	80-95	40-75	15-45	20-30	6-12
			14-26	Loamy sand, coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, SP, SM	A-1	0-5	0-15	55-90	50-90	10-40	2-25	0-21	NP-4
			26-35	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0-5	0-15	55-90	50-85	10-40	2-25	0-21	NP-4
			35-48	Coarse sand, gravelly coarse sand, loamy coarse sand	GP, SP-SM, SM, SP	A-1	0-5	0-15	55-90	50-90	10-40	2-25	0-21	NP-4
			48-80	Loam, silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	27-45	12-25

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
L170B:														
Lowlein---------	3	B	0-14	Loam, sandy loam	SM, SC-SM	A-4	0	0	90-100	85-100	60-75	35-50	27-40	6-12
			14-24	Loam, sandy loam, fine sandy loam	SC-SM	A-4	0	0	90-100	85-100	60-90	35-50	22-33	6-12
			24-31	Loamy sand, sand, fine sand	SM, SP-SM	A-2, A-3	0	0	90-100	85-100	50-75	5-35	0-24	NP-6
			31-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
Poorly drained soils----------	2	B/D	0-22	Clay loam	ML, MH	A-7	0	0-5	95-100	95-100	85-95	75-90	44-60	18-24
			22-30	Clay loam, silty clay loam, loam	CL	A-6, A-7	0	0-5	95-100	95-100	85-95	65-85	36-50	17-25
			30-57	Coarse sand, gravelly coarse sand, loamy coarse sand	SP-SM, GP, SM, SP	A-1	0-5	0-15	55-100	50-100	10-40	2-25	0-21	NP-4
			57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	75-90	50-75	29-39	12-18
M-W. Water, miscellaneous														
P1B:														
Annieville------	80	B	0-11	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	48-57	22-24
			11-52	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	38-47	19-25
			52-57	Sandy loam	SC-SM, SC, SM	A-4, A-2	0	0	100	100	60-75	20-45	16-28	2-12
			57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
McCreath--------	10	B	0-17	Silty clay loam	MH	A-7	0	0	100	100	95-100	90-100	50-57	22-24
			17-35	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	38-47	19-25
			35-44	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-41	13-21
			44-49	Gravelly loam	SC-SM, SC	A-4	0	0	90-100	70-85	60-75	20-45	22-28	7-12
			49-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P1B:														
Galva----------	5	B	0-11	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	43-57	18-24
			11-31	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	35-47	16-25
			31-45	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-41	13-21
			45-60	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	28-36	12-17
Primghar--------	5	B	0-21	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	95-100	45-57	18-24
			21-42	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	38-47	19-25
			42-60	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	70-100	35-46	17-25
P2A:														
McCreath--------	80	B	0-17	Silty clay loam	MH	A-7	0	0	100	100	95-100	90-100	50-57	22-24
			17-35	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	38-47	19-25
			35-44	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-41	13-21
			44-49	Gravelly loam	SC-SM, SC	A-4	0	0	90-100	70-85	60-75	20-45	22-28	7-12
			49-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Gillett Grove---	10	B/D	0-17	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	90-100	48-66	21-28
			17-44	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	41-47	21-25
			44-57	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	32-41	15-21
			57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Annieville------	5	B	0-11	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	48-57	22-24
			11-52	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	38-47	19-25
			52-57	Sandy loam	SC-SM, SC, SM	A-4, A-2	0	0	100	100	60-75	20-45	16-28	2-12
			57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Primghar--------	5	B	0-21	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	95-100	45-57	18-24
			21-42	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	38-47	19-25
			42-60	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	70-100	35-46	17-25

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P3A:														
Biscay, occasionally flooded--------	85	B/D	0-16	Silty clay loam	MH, ML	A-7	0	0	95-100	95-100	80-95	75-90	45-58	18-22
			16-21	Loam, clay loam, sandy clay loam	CL, ML	A-7	0	0	95-100	90-100	70-90	50-75	42-54	17-22
			21-31	Loam, clay loam, sandy clay loam	CL	A-6, A-7	0	0	95-100	90-100	70-90	50-75	35-44	17-22
			31-60	Stratified loamy sand to gravelly coarse sand, coarse sand	SP, SP-SM	A-1	0	0-2	65-95	55-95	20-45	2-10	0-18	NP-3
Cylinder, occasionally flooded--------	10	B	0-18	Loam	ML	A-6	0	0	100	95-100	90-100	55-85	40-49	15-18
			18-28	Loam, clay loam	CL, SC	A-6	0	0	95-100	80-100	80-95	45-70	32-42	15-21
			28-39	Gravelly sand, gravelly coarse sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0	0-5	75-95	75-95	20-55	5-25	0-23	NP-7
			39-60	Gravelly sand, gravelly coarse sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0	0-5	75-95	75-95	20-55	5-25	0-23	NP-7
Talcot, occasionally flooded--------	5	B/D	0-22	Silty clay loam	MH, ML	A-7	0	0	100	100	80-90	60-85	48-62	21-24
			22-33	Clay loam, silty clay loam, loam	CL	A-7	0	0	95-100	85-100	70-90	60-85	37-47	18-25
			33-60	Coarse sand, stratified loamy sand to gravelly coarse sand	SW, SP, SP-SM	A-1	0	0	85-95	80-90	20-50	2-10	0-18	NP-3

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P7A:														
Comfrey, occasionally flooded--------	80	B/D	0-26	Clay loam	MH, ML	A-7	0	0	100	100	90-100	65-95	46-62	19-24
			26-35	Clay loam, loam	CL	A-7	0	0	100	100	85-100	65-85	29-47	12-25
			35-60	Clay loam, loam	CL	A-6, A-7	0	0	100	100	80-100	60-85	28-46	12-25
Colo, occasionally flooded--------	5	B/D	0-34	Silty clay loam	MH, ML	A-7	0	0	100	100	90-100	90-100	45-59	18-22
			34-52	Silty clay loam	CL	A-7	0	0	100	100	90-100	90-100	39-51	19-25
			52-60	Silty clay loam, silt loam	CL	A-7	0	0	100	100	95-100	80-100	36-47	17-25
Havelock, occasionally flooded--------	5	B/D	0-32	Clay loam	MH, ML	A-7	0	0	100	90-100	90-100	90-100	45-62	18-24
			32-60	Loam, silty clay loam, clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	70-95	30-51	12-25
Havelock, frequently flooded--------	5	B/D	0-32	Clay loam	MH, ML	A-7	0	0	100	90-100	90-100	90-100	45-62	18-24
			32-60	Loam, silty clay loam, clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	70-95	30-51	12-25
Spillco, occasionally flooded--------	5	B	0-10	Silt loam	ML	A-6	0	0	100	95-100	85-95	55-80	36-48	11-17
			10-22	Silt loam	ML	A-6	0	0	100	95-100	85-95	55-80	36-48	11-17
			22-60	Loam, silt loam	CL	A-6	0	0	100	95-100	85-95	55-80	30-42	12-18
P9A:														
Gillett Grove---	85	B/D	0-17	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	90-100	48-66	21-28
			17-44	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	41-47	21-25
			44-57	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	32-41	15-21
			57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P9A:														
McCreath--------	10	B	0-17	Silty clay loam	MH	A-7	0	0	100	100	95-100	90-100	50-57	22-24
			17-35	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	38-47	19-25
			35-44	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-41	13-21
			44-49	Gravelly loam	SC-SM, SC	A-4	0	0	90-100	70-85	60-75	20-45	22-28	7-12
			49-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Afton, frequently flooded--------	5	B/D	0-32	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	80-95	45-62	18-24
			32-43	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	80-95	36-47	17-25
			43-80	Silty clay loam, silt loam, clay loam	CL	A-6, A-7	0	0	100	100	90-100	75-95	35-46	17-25
P12B:														
Everly----------	80	B	0-10	Silty clay loam	ML, MH	A-7	0	0	100	95-100	85-95	65-80	43-52	18-21
			10-18	Clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-95	70-90	36-47	17-25
			18-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Sac----------	10	B	0-11	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	48-57	22-24
			11-28	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	38-47	19-25
			28-33	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Ransom----------	5	B	0-16	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	80-95	45-57	18-24
			16-33	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	90-100	85-100	75-95	35-47	16-25
			33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Wilmonton-------	5	B	0-15	Silty clay loam	MH, ML	A-7	0	0	100	100	85-100	60-90	45-57	18-24
			15-20	Clay loam, loam	CL	A-6	0	0	100	90-100	85-100	60-90	36-44	17-23
			20-25	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			25-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P12C2:														
Everly, moderately eroded---------	80	B	0-7	Silty clay loam	ML, MH	A-7	0	0	100	95-100	85-95	65-80	43-52	18-21
			7-16	Clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-95	70-90	36-47	17-25
			16-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Everly----------	10	B	0-10	Silty clay loam	ML, MH	A-7	0	0	100	95-100	85-95	65-80	43-52	18-21
			10-18	Clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-95	70-90	36-47	17-25
			18-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Moneta----------	5	B	0-9	Clay loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	38-47	18-20
			9-13	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	14-21
			13-53	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			53-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Wilmonton-------	5	B	0-15	Silty clay loam	MH, ML	A-7	0	0	100	100	85-100	60-90	45-57	18-24
			15-20	Clay loam, loam	CL	A-6	0	0	100	90-100	85-100	60-90	36-44	17-23
			20-25	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			25-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
P15B:														
Galva----------	80	B	0-11	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	43-57	18-24
			11-31	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	35-47	16-25
			31-45	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-41	13-21
			45-60	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	28-36	12-17
Primghar--------	10	B	0-21	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	95-100	45-57	18-24
			21-42	Silty clay loam	CL	A-7, A-6	0	0	100	100	90-100	85-100	38-47	19-25
			42-60	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	70-100	35-46	17-25
Annieville------	5	B	0-11	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	48-57	22-24
			11-52	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	38-47	19-25
			52-57	Sandy loam	SC-SM, SC, SM	A-4, A-2	0	0	100	100	60-75	20-45	16-28	2-12
			57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P15B:														
Sac----------	5	B	0-11	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	48-57	22-24
			11-28	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	38-47	19-25
			28-33	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
P20B:														
Judson----------	80	B	0-36	Silt loam	ML	A-6	0	0	100	100	95-100	85-100	38-48	13-17
			36-56	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	31-48	13-22
			56-60	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	95-100	95-100	85-100	30-43	13-23
Primghar--------	10	B	0-21	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	95-100	45-57	18-24
			21-42	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	38-47	19-25
			42-60	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	70-100	35-46	17-25
Galva----------	5	B	0-11	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	43-57	18-24
			11-31	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	35-47	16-25
			31-45	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-41	13-21
			45-60	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	28-36	12-17
Whitewood, overwash-------	5	B/D	0-48	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	80-95	45-62	18-24
			48-70	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	80-95	36-47	17-25
			70-80	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	90-100	75-95	35-46	17-25
P21A:														
Marcus----------	80	B/D	0-17	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	90-100	48-66	21-28
			17-44	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	41-47	21-25
			44-57	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	32-41	15-21
			57-60	Loam, clay loam	CL	A-6	0	0-5	90-100	85-100	80-90	50-75	32-41	15-21

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P21A:														
Whitewood, frequently flooded--------	10	B/D	0-25	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	80-95	45-62	18-24
			25-43	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	80-95	36-47	17-25
			43-60	Silty clay loam, silt loam, clay loam	CL	A-6, A-7	0	0	100	100	90-100	75-95	35-46	17-25
Primghar--------	5	B	0-21	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	95-100	45-57	18-24
			21-42	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	38-47	19-25
			42-60	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	70-100	35-46	17-25
Spicer----------	5	B/D	0-17	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	90-100	47-62	20-24
			17-35	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	29-47	12-25
			35-60	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	28-46	12-25
P27A:														
Primghar--------	80	B	0-21	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	95-100	45-57	18-24
			21-42	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	38-47	19-25
			42-60	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	70-100	35-46	17-25
Galva----------	8	B	0-11	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	43-57	18-24
			11-31	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	35-47	16-25
			31-45	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-41	13-21
			45-60	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	28-36	12-17

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P27A:														
Marcus----------	8	B/D	0-17	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	90-100	48-66	21-28
			17-44	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	41-47	21-25
			44-57	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	32-41	15-21
			57-60	Loam, clay loam	CL	A-6	0	0-5	90-100	85-100	80-90	50-75	32-41	15-21
Judson----------	4	B	0-22	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	90-100	45-54	18-22
			22-35	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	31-48	13-22
			35-60	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-43	13-23
P28A:														
Ransom----------	80	B	0-16	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	80-95	45-57	18-24
			16-33	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	90-100	85-100	75-95	35-47	16-25
			33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Rushmore--------	8	B/D	0-18	Silty clay loam	MH, ML	A-7	0	0	100	95-100	90-100	85-95	46-62	19-24
			18-24	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	85-100	85-95	39-47	19-25
			24-32	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	85-100	85-95	38-46	19-25
			32-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Sac----------	8	B	0-11	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	48-57	22-24
			11-28	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	38-47	19-25
			28-33	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Primghar--------	4	B	0-21	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	95-100	45-57	18-24
			21-42	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	38-47	19-25
			42-60	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	70-100	35-46	17-25
P29A:														
Rushmore--------	80	B/D	0-18	Silty clay loam	MH, ML	A-7	0	0	100	95-100	90-100	85-95	46-62	19-24
			18-24	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	85-100	85-95	39-47	19-25
			24-32	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	85-100	85-95	38-46	19-25
			32-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P29A:														
Ransom----------	10	B	0-16	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	80-95	45-57	18-24
			16-33	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	90-100	85-100	75-95	35-47	16-25
			33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Whitewood, frequently flooded--------	10	B/D	0-25	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	80-95	45-62	18-24
			25-43	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	80-95	36-47	17-25
			43-60	Silty clay loam, silt loam, clay loam	CL	A-6, A-7	0	0	100	100	90-100	75-95	35-46	17-25
P30B:														
Sac----------	80	B	0-11	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	48-57	22-24
			11-28	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	38-47	19-25
			28-33	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Annieville------	10	B	0-11	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	48-57	22-24
			11-52	Silt loam, silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	37-47	18-25
			52-57	Sandy loam	SC-SM, SC, SM	A-4, A-2	0	0	100	100	60-75	20-45	16-28	2-12
			57-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Primghar--------	5	B	0-21	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	95-100	45-57	18-24
			21-42	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	38-47	19-25
			42-60	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	70-100	35-46	17-25
Ransom----------	5	B	0-16	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	80-95	45-57	18-24
			16-33	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	90-100	85-100	75-95	35-47	16-25
			33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P31A:														
Spicer----------	85	B/D	0-17	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	90-100	47-62	20-24
			17-35	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	29-47	12-25
			35-60	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	28-46	12-25
Marcus----------	10	B/D	0-17	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	90-100	48-66	21-28
			17-44	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	41-47	21-25
			44-57	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	32-41	15-21
			57-60	Loam, clay loam	CL	A-6	0	0-5	90-100	85-100	80-90	50-75	32-41	15-21
Whitewood-------	5	B/D	0-25	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	80-95	45-62	18-24
			25-43	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	80-95	36-47	17-25
			43-60	Silty clay loam, silt loam, clay loam	CL	A-6, A-7	0	0	100	100	90-100	75-95	35-46	17-25
P33A:														
Spillco, occasionally flooded--------	85	B	0-10	Silt loam	ML	A-6	0	0	100	95-100	85-95	55-80	36-48	11-17
			10-22	Silt loam	ML	A-6	0	0	100	95-100	85-95	55-80	36-48	11-17
			22-60	Loam, silt loam	CL	A-6	0	0	100	95-100	85-95	55-80	30-42	12-18
Spillco, frequently flooded--------	10	B	0-15	Silt loam	ML	A-6	0	0	100	95-100	85-95	55-80	36-48	11-17
			15-60	Silt loam, loam	CL	A-6	0	0	100	95-100	85-95	55-80	30-42	12-18
Comfrey, occasionally flooded--------	5	B/D	0-26	Clay loam	MH, ML	A-7	0	0	100	100	90-100	65-95	46-62	19-24
			26-35	Clay loam, loam	CL	A-7	0	0	100	100	85-100	65-85	29-47	12-25
			35-60	Clay loam, loam	CL	A-6, A-7	0	0	100	100	80-100	60-85	28-46	12-25

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P36A:														
Talcot, occasionally flooded--------	85	B/D	0-22	Silty clay loam	MH, ML	A-7	0	0	100	100	80-90	60-85	48-62	21-24
			22-33	Clay loam, silty clay loam, loam	CL	A-7	0	0	95-100	85-100	70-90	60-85	37-47	18-25
			33-60	Coarse sand, stratified loamy sand to gravelly coarse sand	SW, SP, SP-SM	A-1	0	0	85-95	80-90	20-50	2-10	0-18	NP-3
Biscay, occasionally flooded--------	10	B/D	0-16	Silty clay loam	MH, ML	A-7	0	0	95-100	95-100	80-95	75-90	45-58	18-22
			16-21	Loam, clay loam, sandy clay loam	CL, ML	A-7	0	0	95-100	90-100	70-90	50-75	42-54	17-22
			21-31	Loam, clay loam, sandy clay loam	CL	A-6, A-7	0	0	95-100	90-100	70-90	50-75	35-44	17-22
			31-60	Stratified loamy sand to gravelly coarse sand, coarse sand	SP, SP-SM	A-1	0	0-2	65-95	55-95	20-45	2-10	0-18	NP-3
Cylinder, occasionally flooded--------	5	B	0-18	Loam	ML, CL	A-6	0	0	100	95-100	90-100	55-85	40-49	15-18
			18-28	Loam, clay loam	SC, CL	A-6	0	0	95-100	80-100	80-95	45-70	32-42	15-21
			28-39	Gravelly sand, gravelly coarse sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0	0-5	75-95	75-95	20-55	5-25	0-23	NP-7
			39-60	Gravelly sand, gravelly coarse sand, loamy sand	SP-SM, SM	A-1, A-2, A-3	0	0-5	70-95	70-95	20-55	5-25	0-23	NP-7

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P37D:														
Talmo----------	90	A	0-9	Gravelly sandy loam	SM, SP-SM	A-1, A-2	0	0-5	85-95	60-75	30-60	12-20	18-31	2-9
			9-12	Gravelly loamy sand, gravelly coarse sand, gravelly loamy coarse sand	SW, SP	A-1	0	0-5	50-90	40-60	10-30	0-5	0-21	NP-4
			12-60	Very gravelly coarse sand, very gravelly sand	SP, GP, SW, GP-GM	A-1	0	0-5	20-70	10-60	5-30	0-5	0-17	NP-2
Kanaranzi-------	5	B	0-7	Silt loam	CL, ML	A-6	0	0	95-100	95-100	80-95	60-85	34-49	12-18
			7-20	Silt loam, loam	CL	A-6	0	0	95-100	95-100	80-95	60-85	30-44	12-21
			20-80	Gravelly sand, gravelly coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2
Thurman---------	5	A	0-10	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	95-100	95-100	55-95	25-40	21-36	3-11
			10-20	Sandy loam, fine sandy loam, loamy sand	SC-SM, SC, SM	A-2, A-4	0	0	95-100	85-100	55-95	25-45	18-30	3-12
			20-60	Loamy sand, coarse sand, sand	SP	A-2, A-3	0	0	95-100	75-100	50-80	3-7	0-21	NP-6
P38B:														
Thurman---------	90	A	0-13	Sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	95-100	95-100	55-95	25-40	21-36	3-11
			13-18	Sandy loam, fine sandy loam, loamy sand	SC-SM, SC, SM	A-2, A-4	0	0	95-100	85-100	55-95	25-45	18-30	3-12
			18-60	Loamy sand, coarse sand, sand	SP	A-2, A-3	0	0	95-100	75-100	50-80	3-7	0-21	NP-6
Henkin----------	10	B	0-5	Loam	ML, CL	A-6	0	0	100	100	85-100	70-100	36-48	13-17
			5-21	Sandy loam, loam	CL	A-6	0	0	100	95-100	85-100	65-95	29-38	12-18
			21-48	Sandy loam, loam	SC-SM, SM, SW-SM	A-2	0	0	100	100	50-75	10-30	0-21	NP-6
			48-60	Stratified loamy sand to loam	SM, SW-SM, SC-SM	A-2	0	0	100	100	50-75	10-30	0-21	NP-6

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P38C:														
Thurman---------	90	A	0-10	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	95-100	95-100	55-95	25-40	21-36	3-11
			10-20	Sandy loam, fine sandy loam, loamy sand	SC-SM, SC, SM	A-2, A-4	0	0	95-100	85-100	55-95	25-45	18-30	3-12
			20-60	Loamy sand, coarse sand, sand	SP	A-2, A-3	0	0	95-100	75-100	50-80	3-7	0-21	NP-6
Henkin----------	10	B	0-5	Loam	ML, CL	A-6	0	0	100	100	85-100	70-100	36-48	13-17
			5-21	Sandy loam, loam	CL	A-6	0	0	100	95-100	85-100	65-95	29-38	12-18
			21-48	Sandy loam, loam	SC-SM, SM, SW-SM	A-2	0	0	100	100	50-75	10-30	0-21	NP-6
			48-60	Stratified loamy sand, loam	SC-SM, SM, SW-SM	A-2	0	0	100	100	50-75	10-30	0-21	NP-6
P43A:														
Wilmonton-------	85	B	0-15	Silty clay loam	MH, ML	A-7	0	0	100	100	85-100	60-90	45-57	18-24
			15-20	Clay loam, loam	CL	A-6	0	0	100	90-100	85-100	60-90	36-44	17-23
			20-25	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			25-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Everly----------	5	B	0-10	Silty clay loam	ML, MH	A-7	0	0	100	95-100	85-95	65-80	43-52	18-21
			10-18	Clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-95	70-90	36-47	17-25
			18-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Ransom----------	5	B	0-16	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	80-95	45-57	18-24
			16-33	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	90-100	85-100	75-95	35-47	16-25
			33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Rushmore--------	5	B/D	0-18	Silty clay loam	MH, ML	A-7	0	0	100	95-100	90-100	85-95	46-62	19-24
			18-24	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	85-100	85-95	39-47	19-25
			24-32	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	85-100	85-95	38-46	19-25
			32-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P45E:														
Moneta----------	85	B	0-9	Clay loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	38-47	18-20
			9-13	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	14-21
			13-53	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			53-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Judson----------	10	B	0-36	Silt loam	ML	A-6	0	0	100	100	95-100	85-100	38-48	13-17
			36-56	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	31-48	13-22
			56-60	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	95-100	95-100	85-100	30-43	13-23
Soils that are moderately deep to carbonates--	5	B	0-9	Clay loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	38-47	18-20
			9-20	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	14-21
			20-53	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			53-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
P48A:														
Allendorf-------	85	B	0-14	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	43-57	18-24
			14-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	35-47	16-25
			34-60	Gravelly coarse sand, very gravelly loamy coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2
Kanaranzi-------	5	B	0-7	Silt loam	CL, ML	A-6	0	0	95-100	95-100	80-95	60-85	34-49	12-18
			7-20	Silt loam, loam	CL	A-6	0	0	95-100	95-100	80-95	60-85	30-44	12-21
			20-80	Gravelly sand, gravelly coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2
Moderately well drained soils--	5	B	0-13	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	43-57	18-24
			13-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	35-47	16-25
			34-60	Gravelly coarse sand, very gravelly loamy coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P48A:														
Sac----------	5	B	0-11	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	48-57	22-24
			11-28	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	38-47	19-25
			28-33	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
P48B:														
Allendorf-------	85	B	0-13	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	43-57	18-24
			13-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	35-47	16-25
			34-60	Gravelly coarse sand, very gravelly loamy coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2
Kanaranzi-------	5	B	0-7	Silt loam	CL, ML	A-6	0	0	95-100	95-100	80-95	60-85	34-49	12-18
			7-20	Silt loam, loam	CL	A-6	0	0	95-100	95-100	80-95	60-85	30-44	12-21
			20-80	Gravelly sand, gravelly coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2
Moderately well drained soils--	5	B	0-13	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	43-57	18-24
			13-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	35-47	16-25
			34-60	Gravelly coarse sand, very gravelly loamy coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2
Sac----------	5	B	0-11	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	48-57	22-24
			11-28	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-100	38-47	19-25
			28-33	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			33-60	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
P49A:														
Comfrey, frequently flooded--------	85	B/D	0-40	Clay loam	MH, ML	A-7	0	0	100	100	90-100	65-95	46-62	19-24
			40-60	Clay loam, loam	CL	A-6, A-7	0	0	100	100	80-100	60-85	28-46	12-25

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P49A:														
Comfrey, occasionally flooded--------	5	B/D	0-26	Clay loam	MH, ML	A-7	0	0	100	100	90-100	65-95	46-62	19-24
			26-35	Clay loam, loam	CL	A-7	0	0	100	100	85-100	65-85	29-47	12-25
			35-60	Clay loam, loam	CL	A-6, A-7	0	0	100	100	80-100	60-85	28-46	12-25
Havelock, frequently flooded--------	5	B/D	0-32	Clay loam	MH, ML	A-7	0	0	100	90-100	90-100	90-100	45-62	18-24
			32-60	Loam, silty clay loam, clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	70-95	30-51	12-25
Spillco, occasionally flooded--------	5	B	0-10	Silt loam	ML	A-6	0	0	100	95-100	85-95	55-80	36-48	11-17
			10-22	Silt loam	ML	A-6	0	0	100	95-100	85-95	55-80	36-48	11-17
			22-60	Loam, silt loam	CL	A-6	0	0	100	95-100	85-95	55-80	30-42	12-18
P50B:														
Everly----------	60	B	0-15	Silty clay loam	ML, MH	A-7	0	0	100	95-100	85-95	65-80	43-52	18-21
			15-26	Clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-95	70-90	36-47	17-25
			26-44	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	14-21
			44-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Kanaranzi-------	25	B	0-10	Silt loam	CL, ML	A-6	0	0	95-100	95-100	80-95	60-85	34-49	12-18
			10-16	Silt loam, loam	CL	A-6	0	0	95-100	95-100	80-95	60-85	30-44	12-21
			16-80	Very gravelly sand, gravelly coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2
Wilmonton-------	10	B	0-15	Silty clay loam	MH, ML	A-7	0	0	100	100	85-100	60-90	45-57	18-24
			15-20	Clay loam, loam	CL	A-6	0	0	100	90-100	85-100	60-90	36-44	17-23
			20-25	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			25-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Ransom----------	5	B	0-16	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	80-95	45-57	18-24
			16-33	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	90-100	85-100	75-95	35-47	16-25
			33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P51C2:														
Everly, moderately eroded---------	40	B	0-8	Silty clay loam	ML, MH	A-7	0	0	100	95-100	85-95	65-80	43-52	18-21
			8-26	Clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-95	70-90	36-47	17-25
			26-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Moneta, moderately eroded---------	20	B	0-8	Clay loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	38-47	18-20
			8-38	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			38-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Talmo, moderately eroded---------	20	A	0-6	Gravelly sandy loam	SM, SP-SM	A-1, A-2	0	0-5	80-95	60-75	30-60	12-20	18-31	2-9
			6-60	Very gravelly coarse sand, very gravelly sand	SP, GP, SW, GP-GM	A-1	0	0-5	20-70	10-60	5-30	0-5	0-17	NP-2
Everly----------	10	B	0-10	Silty clay loam	ML, MH	A-7	0	0	100	95-100	85-95	65-80	43-52	18-21
			10-18	Clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-95	70-90	36-47	17-25
			18-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Kanaranzi-------	5	B	0-7	Silt loam	CL, ML	A-6	0	0	95-100	95-100	80-95	60-85	34-49	12-18
			7-20	Silt loam, loam	CL	A-6	0	0	95-100	95-100	80-95	60-85	30-44	12-21
			20-80	Gravelly sand, very gravelly coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2
Wilmonton-------	5	B	0-15	Silty clay loam	MH, ML	A-7	0	0	100	100	85-100	60-90	45-57	18-24
			15-20	Clay loam, loam	CL	A-6	0	0	100	90-100	85-100	60-90	36-44	17-23
			20-25	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			25-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P52D2:														
Moneta, moderately eroded---------	40	B	0-7	Clay loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	38-47	18-20
			7-30	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			30-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Everly, moderately eroded---------	20	B	0-8	Silty clay loam	ML, MH	A-7	0	0	100	95-100	85-95	65-80	43-52	18-21
			8-16	Clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-95	70-90	36-47	17-25
			16-38	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			38-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Talmo, moderately eroded---------	20	A	0-8	Gravelly sandy loam	SM, SP-SM	A-1, A-2	0	0-5	85-95	60-75	30-60	12-20	18-31	2-9
			8-60	Very gravelly coarse sand, very gravelly sand	SP, GP, SW, GP-GM	A-1	0	0-5	20-70	10-60	5-30	0-5	0-17	NP-2
Everly----------	10	B	0-10	Silty clay loam	ML, MH	A-7	0	0	100	95-100	85-95	65-80	43-52	18-21
			10-18	Clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-95	70-90	36-47	17-25
			18-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Kanaranzi-------	5	B	0-7	Silt loam	CL, ML	A-6	0	0	95-100	95-100	80-95	60-85	34-49	12-18
			7-20	Silt loam, loam	CL	A-6	0	0	95-100	95-100	80-95	60-85	30-44	12-21
			20-80	Gravelly sand, very gravelly coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2
Wilmonton-------	5	B	0-15	Silty clay loam	MH, ML	A-7	0	0	100	100	85-100	60-90	45-57	18-24
			15-20	Clay loam, loam	CL	A-6	0	0	100	90-100	85-100	60-90	36-44	17-23
			20-25	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			25-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P53C2:														
Everly, moderately eroded---------	55	B	0-10	Silty clay loam	ML, MH	A-7	0	0	100	95-100	85-95	65-80	43-52	18-21
			10-20	Clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-95	70-90	36-47	17-25
			20-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Moneta, moderately eroded---------	25	B	0-7	Clay loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	38-47	18-20
			7-33	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			33-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Everly----------	10	B	0-10	Silty clay loam	ML, MH	A-7	0	0	100	95-100	85-95	65-80	43-52	18-21
			10-18	Clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-95	70-90	36-47	17-25
			18-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Wilmonton-------	10	B	0-15	Silty clay loam	MH, ML	A-7	0	0	100	100	85-100	60-90	45-57	18-24
			15-20	Clay loam, loam	CL	A-6	0	0	100	90-100	85-100	60-90	36-44	17-23
			20-25	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			25-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
P54D2:														
Moneta, moderately eroded---------	45	B	0-9	Clay loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	38-47	18-20
			9-13	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	14-21
			13-53	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			53-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Everly, moderately eroded---------	40	B	0-10	Silty clay loam	ML, MH	A-7	0	0	100	95-100	85-95	65-80	43-52	18-21
			10-15	Clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-95	70-90	36-47	17-25
			15-44	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			44-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P54D2:														
Everly----------	10	B	0-10	Silty clay loam	ML, MH	A-7	0	0	100	95-100	85-95	65-80	43-52	18-21
			10-18	Clay loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	85-95	70-90	36-47	17-25
			18-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
Wilmonton-------	5	B	0-15	Silty clay loam	MH, ML	A-7	0	0	100	100	85-100	60-90	45-57	18-24
			15-20	Clay loam, loam	CL	A-6	0	0	100	90-100	85-100	60-90	36-44	17-23
			20-25	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	32-43	15-23
			25-55	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
			55-80	Clay loam, loam	CL	A-6	0-1	0-2	95-100	90-98	78-92	52-78	31-42	14-21
P55A:														
Kato----------	90	B/D	0-21	Silty clay loam	MH, ML	A-7	0	0	95-100	95-100	80-95	75-90	45-59	18-22
			21-31	Silt loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	80-95	75-90	37-44	18-23
			31-35	Sandy loam, fine sandy loam, loamy sand	SC-SM, SC, SM	A-2, A-4	0	0	95-100	85-100	55-95	25-45	17-29	3-12
			35-60	Stratified loamy sand to gravelly coarse sand, coarse sand	SP, SP-SM	A-1	0	0-2	65-95	55-95	20-45	2-10	0-18	NP-3
Somewhat poorly drained soils--	10	B	0-21	Silty clay loam	MH, ML	A-7	0	0	95-100	95-100	80-95	75-90	45-54	18-22
			21-31	Silt loam, silty clay loam	CL	A-6, A-7	0	0	95-100	95-100	80-95	75-90	37-44	18-23
			31-35	Sandy loam, fine sandy loam, loamy sand	SC-SM, SC, SM	A-2, A-4	0	0	95-100	85-100	55-95	25-45	17-29	3-12
			35-60	Stratified loamy sand to gravelly coarse sand, coarse sand	SP, SP-SM	A-1	0	0-2	65-95	55-95	20-45	2-10	0-18	NP-3

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P56A:														
Kanaranzi-------	80	B	0-7	Silt loam	CL, ML	A-6	0	0	95-100	95-100	80-95	60-85	34-49	12-18
			7-20	Silt loam, loam	CL	A-6	0	0	95-100	95-100	80-95	60-85	30-44	12-21
			20-80	Gravelly sand, very gravelly coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2
Allendorf-------	10	B	0-14	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	43-57	18-24
			14-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	35-47	16-25
			34-60	Gravelly coarse sand, very gravelly loamy coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2
Moderately well drained soils--	10	B	0-7	Loam	CL, ML	A-6	0	0	95-100	95-100	80-95	60-85	34-49	12-18
			7-20	Silt loam, loam	CL	A-6	0	0	95-100	95-100	80-95	60-85	30-44	12-21
			20-80	Gravelly sand, very gravelly coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2
P56B:														
Kanaranzi-------	80	B	0-7	Silt loam	CL, ML	A-6	0	0	95-100	95-100	80-95	60-85	34-49	12-18
			7-20	Silt loam, loam	CL	A-6	0	0	95-100	95-100	80-95	60-85	30-44	12-21
			20-80	Gravelly sand, gravelly coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2
Allendorf-------	14	B	0-13	Silty clay loam	ML, MH	A-7	0	0	100	100	95-100	90-100	43-57	18-24
			13-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	35-47	16-25
			34-60	Gravelly coarse sand, very gravelly loamy coarse sand	SP, GP, GP-GM, SP-SM	A-1	0	0-5	50-100	35-100	20-50	1-10	0-17	NP-2

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
P56B:														
Talmo----------	6	A	0-7	Gravelly sandy loam	SM, SP-SM	A-1, A-2	0	0-5	85-95	60-75	30-60	12-20	18-31	2-9
			7-10	Gravelly loamy sand, gravelly coarse sand, gravelly loamy coarse sand	SW, SP	A-1	0	0-5	50-90	40-60	10-30	0-5	0-21	NP-4
			10-60	Gravelly coarse sand, very gravelly sand	GP, SW, GP-GM, SP	A-1	0	0-5	20-70	10-60	5-30	0-5	0-17	NP-2
U3B. Udorthents (cut and fill land)														
U7. Udorthents, shallow, sanitary landfill														
U15A:														
Havelock, frequently flooded--------	80	B/D	0-32	Clay loam	MH, ML	A-7	0	0	100	90-100	90-100	90-100	45-62	18-24
			32-60	Loam, silty clay loam, clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	70-95	30-51	12-25
Havelock, occasionally flooded--------	10	B/D	0-32	Clay loam	MH, ML	A-7	0	0	100	90-100	90-100	90-100	45-62	18-24
			32-60	Loam, silty clay loam, clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	70-95	30-51	12-25
Calco, frequently flooded--------	5	B/D	0-36	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	85-100	45-62	18-24
			36-60	Silty clay loam	CL	A-7	0	0	100	100	95-100	85-100	39-51	19-25
Spillco, frequently flooded--------	5	B	0-15	Silt loam	ML	A-6	0	0	100	95-100	85-95	55-80	36-48	11-17
			15-60	Silt loam, loam	CL	A-6	0	0	100	95-100	85-95	55-80	30-42	12-18

Table 16.--Engineering Index Properties--Continued

Map symbol and component name	Pct. of map unit	Hydro-logic group	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
			In				Pct	Pct					Pct	
U24A:														
Havelock, occasionally flooded--------	80	B/D	0-32	Clay loam	MH, ML	A-7	0	0	100	90-100	90-100	90-100	45-62	18-24
			32-60	Loam, silty clay loam, clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	70-95	30-51	12-25
Havelock, frequently flooded--------	10	B/D	0-32	Clay loam	MH, ML	A-7	0	0	100	90-100	90-100	90-100	45-62	18-24
			32-60	Loam, silty clay loam, clay loam	CL	A-6, A-7	0	0	95-100	90-100	80-100	70-95	30-51	12-25
Spillco, occasionally flooded--------	5	B	0-10	Silt loam	ML	A-6	0	0	100	95-100	85-95	55-80	36-48	11-17
			10-22	Silt loam	ML	A-6	0	0	100	95-100	85-95	55-80	36-48	11-17
			22-60	Loam, silt loam	CL	A-6	0	0	100	95-100	85-95	55-80	30-42	12-18
Comfrey, occasionally flooded--------	3	B/D	0-26	Clay loam	MH, ML	A-7	0	0	100	100	90-100	65-95	46-62	19-24
			26-35	Clay loam, loam	CL	A-7	0	0	100	100	85-100	65-85	29-47	12-25
			35-60	Clay loam, loam	CL	A-6, A-7	0	0	100	100	80-100	60-85	28-46	12-25
Calco, occasionally flooded--------	2	B/D	0-36	Silty clay loam	MH, ML	A-7	0	0	100	100	95-100	85-100	45-62	18-24
			36-44	Silty clay loam	CL	A-7	0	0	100	100	95-100	85-100	39-51	19-25
			44-60	Silty clay loam	CL	A-7	0	0	100	100	95-100	85-100	38-47	19-25
W. Water														

Table 17.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
GP:													
Pits, gravel.													
Udipsamments.													
L5A:													
Delft, overwash-------	45	0-12	20-27	1.40-1.65	0.2-0.6	0.18-0.20	3.0-5.9	3.0-5.0	.24	.24	5	6	48
		12-37	20-30	1.40-1.65	0.2-0.6	0.18-0.20	3.0-5.9	4.0-8.0	.24	.24			
		37-47	20-32	1.30-1.40	0.6-2.0	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
		47-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Delft----------	35	0-37	25-35	1.40-1.65	0.2-0.6	0.18-0.20	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		37-50	20-32	1.30-1.40	0.6-2.0	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
		50-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Delft, frequently flooded----------	7	0-8	27-35	1.35-1.55	0.6-2.0	0.17-0.19	3.2-5.8	5.0-8.0	.24	.24	5	6	48
		8-26	20-35	1.35-1.55	0.6-2.0	0.17-0.19	1.0-5.8	2.0-5.0	.24	.24			
		26-40	22-35	1.35-1.55	0.6-2.0	0.15-0.19	1.6-5.8	0.5-1.0	.32	.32			
		40-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril----------	6	0-27	18-26	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2.0	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.45-1.70	0.6-2.0	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Glencoe, depressional	4	0-10	27-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
		10-35	25-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		35-48	25-35	1.35-1.50	0.2-2.0	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		48-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Poorly drained soils--	3	0-32	27-35	1.20-1.30	0.2-2.0	0.19-0.22	3.2-5.8	4.0-8.0	.28	.28	5	7	38
		32-43	25-35	1.20-1.30	0.2-2.0	0.17-0.20	2.6-5.8	0.5-1.0	.43	.43			
		43-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L6A:													
Biscay----------	85	0-20	18-30	1.20-1.30	0.6-2.0	0.20-0.22	3.0-5.9	4.0-8.0	.28	.28	4	6	48
		20-28	18-30	1.25-1.35	0.6-2.0	0.17-0.19	3.0-5.9	0.5-1.0	.28	.28			
		28-36	10-28	1.35-1.55	2.0-6.0	0.11-0.17	0.0-2.9	0.5-1.0	.28	.32			
		36-60	1-6	1.55-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L6A:													
Biscay, depressional--	8	0-23	18-30	1.20-1.30	0.6-2.0	0.20-0.22	3.0-5.9	4.0-8.0	.28	.28	4	6	48
		23-28	18-30	1.25-1.35	0.6-2.0	0.17-0.19	3.0-5.9	0.5-1.0	.28	.28			
		28-36	10-28	1.35-1.55	2.0-6.0	0.11-0.17	0.0-2.9	0.5-1.0	.28	.32			
		36-60	1-6	1.55-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Mayer----------	5	0-18	18-30	1.25-1.35	0.6-2.0	0.20-0.22	0.0-2.9	4.0-8.0	.24	.24	4	4L	86
		18-33	18-30	1.25-1.35	0.6-2.0	0.16-0.19	0.0-2.9	0.5-1.0	.28	.28			
		33-80	1-5	1.55-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.15	.15			
Cylinder----------	2	0-14	22-27	1.40-1.45	0.6-2.0	0.20-0.22	3.0-5.9	4.0-5.0	.24	.24	4	6	48
		14-18	22-30	1.45-1.60	0.6-2.0	0.17-0.19	3.0-5.9	2.0-3.0	.32	.32			
		18-28	22-30	1.45-1.60	0.6-2.0	0.17-0.19	3.0-5.9	2.0-3.0	.32	.32			
		28-80	2-12	1.60-1.70	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
L78A:													
Canisteo----------	65	0-18	27-35	1.25-1.35	0.6-2.0	0.18-0.22	3.0-5.9	4.0-7.0	.24	.24	5	4L	86
		18-39	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32			
		39-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Crippin----------	10	0-15	22-27	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	5.0-6.0	.24	.24	5	4L	86
		15-27	24-30	1.40-1.55	0.6-2.0	0.17-0.19	1.0-4.2	0.8-2.5	.28	.28			
		27-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Glencoe, depressional	10	0-10	27-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
		10-35	25-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		35-48	25-35	1.35-1.50	0.2-2.0	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		48-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Canisteo, depressional	5	0-17	27-32	1.25-1.35	0.6-2.0	0.18-0.22	3.0-5.9	4.0-8.0	.24	.24	5	4L	86
		17-30	20-35	1.35-1.50	0.6-2.0	0.15-0.19	3.0-5.9	2.0-4.0	.32	.32			
		30-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Harps----------	5	0-13	27-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	3.0-5.0	.24	.24	5	4L	86
		13-30	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		30-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Webster----------	5	0-19	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		19-26	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		26-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L79B:													
Clarion----------	70	0-14	20-27	1.30-1.55	0.6-2.0	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
		14-33	23-30	1.30-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
		33-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L79B:													
Clarion, moderately eroded----------	15	0-10	20-27	1.30-1.55	0.6-2.0	0.20-0.22	0.0-2.9	2.0-3.5	.24	.24	5	6	48
		10-38	23-30	1.30-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
		38-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Nicollet----------	8	0-17	27-35	1.30-1.40	0.6-2.0	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		17-33	25-35	1.30-1.40	0.6-2.0	0.15-0.19	3.0-5.9	0.8-2.0	.32	.32			
		33-36	25-35	1.30-1.40	0.6-2.0	0.15-0.19	3.0-5.9	0.2-0.8	.32	.32			
		36-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ocheyedan----------	5	0-10	24-27	1.40-1.45	0.6-2.0	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
		10-30	14-24	1.45-1.60	0.6-2.0	0.16-0.18	0.0-2.9	0.5-1.0	.32	.32			
		30-60	12-24	1.45-1.70	0.6-2.0	0.19-0.21	0.0-2.9	0.1-0.5	.43	.43			
Webster----------	2	0-19	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		19-26	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		26-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L83A:													
Webster----------	65	0-19	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		19-26	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		26-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Glencoe, depressional	14	0-10	27-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
		10-35	25-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		35-48	25-35	1.35-1.50	0.2-2.0	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		48-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Canisteo----------	8	0-18	27-35	1.25-1.35	0.6-2.0	0.18-0.22	3.0-5.9	4.0-7.0	.24	.24	5	4L	86
		18-39	25-35	1.30-1.50	0.6-2.0	0.12-0.18	0.0-2.9	0.5-1.0	.32	.32			
		39-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Nicollet----------	8	0-17	27-35	1.30-1.40	0.6-2.0	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		17-33	25-35	1.30-1.40	0.6-2.0	0.15-0.19	3.0-5.9	0.8-2.0	.32	.32			
		33-36	25-35	1.30-1.40	0.6-2.0	0.15-0.19	3.0-5.9	0.2-0.8	.32	.32			
		36-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Poorly drained soils--	5	0-22	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		22-30	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		30-57	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		57-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L85A:													
Nicollet----------	85	0-17	27-35	1.30-1.40	0.6-2.0	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		17-33	25-35	1.30-1.40	0.6-2.0	0.15-0.19	3.0-5.9	0.8-2.0	.32	.32			
		33-36	25-35	1.30-1.40	0.6-2.0	0.15-0.19	3.0-5.9	0.2-0.8	.32	.32			
		36-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Clarion----------	10	0-14	20-27	1.30-1.55	0.6-2.0	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
		14-33	23-30	1.30-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
		33-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Webster----------	5	0-19	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		19-26	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		26-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L88A:													
Lura, depressional----	85	0-10	45-60	1.25-1.35	0.0000-0.2	0.14-0.17	6.0-8.9	4.0-12	.28	.28	5	4	86
		10-58	45-60	1.25-1.35	0.0000-0.2	0.14-0.17	6.0-8.9	1.0-4.0	.32	.32			
		58-72	28-60	1.30-1.45	0.0000-0.6	0.11-0.19	6.0-8.9	0.0-1.0	.32	.32			
Brownton----------	7	0-22	35-40	1.20-1.30	0.0000-0.2	0.18-0.22	6.0-8.9	4.0-8.0	.28	.28	5	4	86
		22-38	35-60	1.20-1.30	0.0000-0.2	0.13-0.16	6.0-8.9	0.2-1.0	.28	.28			
		38-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Depressional soils that have an organic surface layer--------	5	0-10	5-30	0.25-0.55	0.2-6.0	0.35-0.48	0.0-0.0	25-60	.02	.02	2	2	134
		10-26	31-40	1.10-1.25	0.6-2.0	0.22-0.26	3.0-5.9	10-20	.37	.37			
		26-48	31-40	1.30-1.40	0.2-2.0	0.18-0.22	3.0-5.9	5.0-10	.28	.28			
		48-80	28-40	1.30-1.45	0.0000-0.6	0.11-0.19	6.0-8.9	0.0-1.0	.32	.32			
Prinsburg----------	3	0-19	27-35	1.20-1.30	0.6-2.0	0.18-0.24	3.0-5.9	4.0-8.0	.28	.28	5	4L	86
		19-29	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.37	.37			
		29-46	18-35	1.25-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.5-1.0	.37	.37			
		46-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L96B:													
Estherville----------	55	0-13	5-15	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-18	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		18-23	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		23-60	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
Hawick----------	35	0-7	2-10	1.50-1.65	2.0-20	0.03-0.13	0.0-2.9	1.0-3.0	.10	.15	5	8	0
		7-80	1-5	1.55-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L96B:													
Biscay----------	2	0-20	18-30	1.20-1.30	0.6-2.0	0.20-0.22	3.0-5.9	4.0-8.0	.28	.28	4	6	48
		20-28	18-30	1.25-1.35	0.6-2.0	0.17-0.19	3.0-5.9	0.5-1.0	.28	.28			
		28-36	10-28	1.35-1.55	2.0-6.0	0.11-0.17	0.0-2.9	0.5-1.0	.28	.32			
		36-60	1-6	1.55-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Tomall----------	8	0-33	12-20	1.25-1.40	0.6-2.0	0.20-0.24	0.9-3.2	4.0-9.0	.28	.28	5	5	56
		33-42	10-18	1.40-1.60	0.6-2.0	0.15-0.19	0.9-4.2	0.2-1.0	.28	.28			
		42-47	2-10	1.40-1.60	6.0-40	0.02-0.05	0.1-0.5	0.1-0.5	.05	.15			
		47-80	2-10	1.40-1.60	6.0-40	0.02-0.05	0.1-0.5	0.0-0.5	.05	.15			
L97C:													
Hawick----------	60	0-7	2-10	1.50-1.65	2.0-20	0.03-0.13	0.0-2.9	1.0-3.0	.10	.15	5	8	0
		7-80	1-5	1.55-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			
Estherville----------	30	0-13	5-15	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-18	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		18-23	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		23-60	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
Tomall----------	10	0-33	12-20	1.25-1.40	0.6-2.0	0.20-0.24	0.9-3.2	4.0-9.0	.28	.28	5	5	56
		33-42	10-18	1.40-1.60	0.6-2.0	0.15-0.19	0.9-4.2	0.2-1.0	.28	.28			
		42-47	2-10	1.40-1.60	6.0-40	0.02-0.05	0.1-0.5	0.1-0.5	.05	.15			
		47-80	2-10	1.40-1.60	6.0-40	0.02-0.05	0.1-0.5	0.0-0.5	.05	.15			
L98A:													
Crippin----------	50	0-15	22-27	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	5.0-6.0	.24	.24	5	4L	86
		15-27	24-30	1.40-1.55	0.6-2.0	0.17-0.19	1.0-4.2	0.8-2.5	.28	.28			
		27-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Nicollet----------	40	0-17	27-35	1.30-1.40	0.6-2.0	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		17-33	25-35	1.30-1.40	0.6-2.0	0.15-0.19	3.0-5.9	0.8-2.0	.32	.32			
		33-36	25-35	1.30-1.40	0.6-2.0	0.15-0.19	3.0-5.9	0.2-0.8	.32	.32			
		36-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Canisteo----------	5	0-18	27-35	1.25-1.35	0.6-2.0	0.18-0.22	3.0-5.9	4.0-7.0	.24	.24	5	4L	86
		18-39	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32			
		39-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Clarion----------	5	0-14	20-27	1.30-1.55	0.6-2.0	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
		14-33	23-30	1.30-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
		33-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L102C2:													
Omsrud, moderately eroded----------	45	0-9	20-26	1.35-1.45	0.6-2.0	0.20-0.22	0.0-2.9	2.0-4.0	.24	.24	5	6	48
		9-19	22-30	1.35-1.50	0.6-2.0	0.17-0.19	0.0-2.9	0.5-2.0	.32	.32			
		19-36	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		36-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Storden, moderately eroded----------	24	0-7	18-27	1.35-1.45	0.6-2.0	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	5	4L	86
		7-55	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		55-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Omsrud----------	14	0-12	20-26	1.35-1.45	0.6-2.0	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		12-16	22-30	1.35-1.50	0.6-2.0	0.17-0.19	0.0-2.9	0.5-2.0	.32	.32			
		16-32	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		32-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril----------	10	0-27	18-26	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2.0	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.45-1.70	0.6-2.0	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Delft----------	5	0-37	25-35	1.40-1.65	0.2-0.6	0.18-0.20	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		37-50	20-32	1.30-1.40	0.6-2.0	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
		50-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Crooksford----------	2	0-10	18-30	1.25-1.50	0.6-2.0	0.20-0.24	3.0-5.9	4.0-6.0	.28	.28	5	6	48
		10-20	18-30	1.25-1.50	0.6-2.0	0.20-0.24	3.0-5.9	3.0-4.0	.28	.28			
		20-26	18-30	1.25-1.50	0.6-2.0	0.18-0.24	3.0-5.9	1.0-2.0	.43	.43			
		26-34	23-30	1.30-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
		34-80	18-27	1.25-1.55	0.6-2.0	0.17-0.24	3.0-5.9	0.5-1.0	.43	.43			
L102D2:													
Omsrud, moderately eroded----------	45	0-9	20-26	1.35-1.45	0.6-2.0	0.20-0.22	0.0-2.9	2.0-4.0	.24	.24	5	6	48
		9-19	22-30	1.35-1.50	0.6-2.0	0.17-0.19	0.0-2.9	0.5-2.0	.32	.32			
		19-36	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		36-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Storden, moderately eroded----------	20	0-7	18-27	1.35-1.45	0.6-2.0	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	5	4L	86
		7-55	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		55-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L102D2:													
Omsrud----------	14	0-12	20-26	1.35-1.45	0.6-2.0	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		12-16	22-30	1.35-1.50	0.6-2.0	0.17-0.19	0.0-2.9	0.5-2.0	.32	.32			
		16-32	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		32-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton----------	9	0-23	18-26	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		23-38	24-30	1.40-1.45	0.6-2.0	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		38-50	22-30	1.45-1.70	0.6-2.0	0.16-0.18	0.0-2.9	0.8-2.5	.32	.32			
		50-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Delft----------	6	0-37	25-35	1.40-1.65	0.2-0.6	0.18-0.20	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		37-50	20-32	1.30-1.40	0.6-2.0	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
		50-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril----------	6	0-27	18-26	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2.0	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.45-1.70	0.6-2.0	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L107A:													
Canisteo----------	50	0-18	27-35	1.25-1.35	0.6-2.0	0.18-0.22	3.0-5.9	4.0-7.0	.24	.24	5	4L	86
		18-39	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32			
		39-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Glencoe, depressional	35	0-10	27-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
		10-35	25-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		35-48	25-35	1.35-1.50	0.2-2.0	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		48-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Harps----------	10	0-13	27-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	3.0-5.0	.24	.24	5	4L	86
		13-30	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		30-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Canisteo, depressional	3	0-17	27-32	1.25-1.35	0.6-2.0	0.18-0.22	3.0-5.9	4.0-8.0	.24	.24	5	4L	86
		17-30	20-35	1.35-1.50	0.6-2.0	0.15-0.19	3.0-5.9	2.0-4.0	.32	.32			
		30-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Crippin----------	2	0-15	22-27	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	5.0-6.0	.24	.24	5	4L	86
		15-27	24-30	1.40-1.55	0.6-2.0	0.17-0.19	1.0-4.2	0.8-2.5	.28	.28			
		27-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L111A:													
Nicollet----------	80	0-10	27-35	1.30-1.40	0.6-2.0	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	7	38
		10-31	25-35	1.30-1.40	0.6-2.0	0.15-0.19	3.0-5.9	1.0-2.0	.32	.32			
		31-42	20-30	1.30-1.40	0.6-2.0	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32			
		42-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Okabena----------	14	0-15	27-32	1.20-1.30	0.6-2.0	0.18-0.24	0.0-2.9	4.0-8.0	.28	.28	5	7	38
		15-22	18-32	1.25-1.35	0.6-2.0	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37			
		22-43	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.37	.37			
		43-48	18-32	1.25-1.35	0.6-2.0	0.16-0.20	0.0-2.9	0.1-0.5	.37	.37			
		48-80	22-32	1.35-1.55	0.6-2.0	0.15-0.19	0.0-2.9	0.0-0.5	.28	.28			
Clarion----------	4	0-14	20-27	1.30-1.55	0.6-2.0	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
		14-33	23-30	1.30-1.55	0.6-2.0	0.17-0.19	1.0-4.2	0.5-1.0	.37	.37			
		33-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Webster----------	2	0-24	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		24-45	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		45-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L112A:													
Webster----------	80	0-24	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		24-45	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		45-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Chetomba----------	10	0-23	27-35	1.20-1.30	0.6-2.0	0.18-0.24	3.0-5.9	4.0-8.0	.28	.28	5	7	38
		23-31	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.28	.28			
		31-43	18-35	1.25-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.5-1.0	.37	.37			
		43-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Glencoe, depressional	6	0-10	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		10-29	25-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		29-40	25-35	1.35-1.50	0.2-2.0	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		40-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Canisteo----------	2	0-17	27-35	1.25-1.35	0.6-2.0	0.18-0.22	3.0-5.9	4.0-8.0	.24	.24	5	4L	86
		17-27	25-35	1.35-1.50	0.6-2.0	0.15-0.19	3.0-5.9	2.0-4.0	.32	.32			
		27-60	22-30	1.45-1.60	0.6-2.0	0.14-0.16	0.0-2.9	0.0-0.5	.32	.32			
Nicollet----------	2	0-10	27-35	1.30-1.40	0.6-2.0	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	7	38
		10-31	25-35	1.30-1.40	0.6-2.0	0.15-0.19	3.0-5.9	1.0-2.0	.32	.32			
		31-42	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32			
		42-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L126A:													
Coland, occasionally flooded----------	80	0-25	27-35	1.40-1.50	0.6-2.0	0.20-0.22	3.0-5.9	5.0-7.0	.24	.24	5	7	38
		25-54	22-28	1.40-1.50	0.6-2.0	0.20-0.22	3.0-5.9	2.0-5.0	.24	.24			
		54-60	12-26	1.50-1.65	0.6-6.0	0.13-0.17	0.0-2.9	0.2-0.8	.28	.28			
Minneopa, occasionally flooded----------	10	0-15	5-15	1.30-1.50	2.0-6.0	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	4	3	86
		15-20	5-15	1.40-1.60	2.0-6.0	0.07-0.11	0.0-2.9	0.5-1.0	.20	.20			
		20-60	1-10	1.50-1.70	6.0-20	0.04-0.09	0.0-2.9	0.1-0.5	.15	.15			
Havelock, occasionally flooded----------	5	0-23	27-35	1.40-1.50	0.6-2.0	0.20-0.22	6.0-8.9	5.0-7.0	.24	.24	5	4L	86
		23-35	27-35	1.40-1.50	0.6-2.0	0.20-0.22	6.0-8.9	1.0-2.0	.28	.28			
		35-60	12-28	1.50-1.65	2.0-6.0	0.13-0.17	0.0-2.9	0.0-0.5	.28	.28			
Spillville, occasionally flooded	5	0-51	18-26	1.45-1.55	0.6-2.0	0.19-0.21	3.0-5.9	4.0-6.0	.24	.24	5	6	48
		51-60	14-24	1.55-1.70	0.6-6.0	0.15-0.18	0.0-2.9	2.0-3.0	.28	.28			
L127A:													
Coland, frequently flooded----------	80	0-12	27-35	1.40-1.50	0.6-2.0	0.20-0.22	3.0-5.9	5.0-7.0	.24	.24	5	6	48
		12-30	22-35	1.40-1.50	0.6-2.0	0.20-0.22	3.0-5.9	4.0-6.0	.24	.24			
		30-55	14-28	1.40-1.50	0.6-2.0	0.20-0.22	3.0-5.9	2.0-5.0	.24	.24			
		55-80	12-26	1.50-1.65	0.6-6.0	0.13-0.17	0.0-2.9	0.5-3.0	.28	.28			
Minneopa, occasionally flooded----------	10	0-16	5-15	1.30-1.50	2.0-6.0	0.13-0.15	0.0-2.9	2.0-5.0	.20	.20	4	3	86
		16-29	5-10	1.40-1.60	2.0-6.0	0.07-0.11	0.0-2.9	0.5-1.0	.20	.20			
		29-60	1-10	1.50-1.70	6.0-20	0.04-0.09	0.0-2.9	0.1-0.5	.15	.15			
Havelock, frequently flooded----------	5	0-30	14-30	1.40-1.50	0.6-2.0	0.20-0.22	6.0-8.9	3.0-7.0	.24	.24	5	4L	86
		30-40	22-35	1.40-1.50	0.6-2.0	0.20-0.22	6.0-8.9	1.0-3.0	.28	.28			
		40-60	18-35	1.50-1.65	2.0-6.0	0.13-0.17	0.0-2.9	0.5-2.5	.28	.28			
Spillville, occasionally flooded	5	0-51	18-26	1.45-1.55	0.6-2.0	0.19-0.21	3.0-5.9	4.0-6.0	.24	.24	5	6	48
		51-60	14-24	1.55-1.70	0.6-6.0	0.15-0.18	0.0-2.9	2.0-3.0	.28	.28			
L129B:													
Terril----------	90	0-27	18-26	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2.0	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.45-1.70	0.6-2.0	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L129B:													
Clarion----------	5	0-14	20-27	1.30-1.55	0.6-2.0	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
		14-33	23-30	1.30-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
		33-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Delft----------	5	0-37	25-35	1.40-1.65	0.2-0.6	0.18-0.20	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		37-50	20-32	1.30-1.40	0.6-2.0	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
		50-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L130A:													
Okoboji mucky silty clay loam, depressional---------	75	0-13	28-35	1.20-1.25	0.6-2.0	0.22-0.25	3.0-5.9	10-18	.32	.32	5	6	48
		13-35	35-45	1.30-1.40	0.2-0.6	0.18-0.20	6.0-8.9	7.0-10	.32	.32			
		35-60	25-35	1.35-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.5-1.5	.32	.32			
Okoboji silty clay loam, depressional---	15	0-26	35-42	1.30-1.40	0.2-0.6	0.21-0.23	6.0-8.9	5.0-10	.32	.32	5	4	86
		26-42	35-50	1.30-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.5-2.0	.32	.32			
		42-60	25-35	1.35-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.2-0.8	.32	.32			
Brownton----------	5	0-22	35-40	1.20-1.30	0.0000-0.2	0.18-0.22	6.0-8.9	4.0-8.0	.28	.28	5	4	86
		22-38	35-60	1.20-1.30	0.0000-0.2	0.13-0.16	6.0-8.9	0.2-1.0	.28	.28			
		38-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Spicer----------	5	0-16	29-35	1.20-1.30	0.6-2.0	0.18-0.24	3.0-5.9	4.0-8.0	.28	.28	5	4L	86
		16-40	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	0.8-2.0	.37	.37			
		40-60	18-35	1.25-1.35	0.6-2.0	0.16-0.22	0.0-2.9	0.1-0.8	.37	.37			
L133A:													
Waldorf----------	80	0-15	35-45	1.20-1.30	0.06-0.6	0.18-0.25	6.0-8.9	6.0-8.0	.28	.28	5	4	86
		15-20	35-45	1.20-1.30	0.06-0.6	0.18-0.25	6.0-8.9	4.0-6.0	.28	.28			
		20-53	38-55	1.25-1.35	0.06-0.6	0.13-0.16	6.0-8.9	0.5-1.0	.32	.32			
		53-80	24-45	1.25-1.45	0.06-0.6	0.20-0.22	3.0-5.9	0.0-0.5	.32	.32			
Marna----------	9	0-20	35-50	1.20-1.30	0.06-0.2	0.18-0.22	6.0-8.9	4.0-8.0	.28	.28	5	4	86
		20-32	35-60	1.25-1.40	0.06-0.2	0.13-0.16	6.0-8.9	0.5-1.0	.32	.32			
		32-41	28-35	1.35-1.50	0.2-0.6	0.15-0.19	3.0-5.9	0.2-0.8	.28	.28			
		41-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Chetomba----------	5	0-23	27-35	1.20-1.30	0.6-2.0	0.18-0.24	3.0-5.9	4.0-8.0	.28	.28	5	7	38
		23-31	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.28	.28			
		31-43	18-35	1.25-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.5-1.0	.37	.37			
		43-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L133A:													
Brownton----------	2	0-22	35-40	1.20-1.30	0.0000-0.2	0.18-0.22	6.0-8.9	4.0-8.0	.28	.28	5	4	86
		22-38	35-60	1.20-1.30	0.0000-0.2	0.13-0.16	6.0-8.9	0.2-1.0	.28	.28			
		38-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Lura, depressional----	2	0-10	45-60	1.25-1.35	0.0000-0.2	0.14-0.17	6.0-8.9	4.0-12	.28	.28	5	4	86
		10-58	45-60	1.25-1.35	0.0000-0.2	0.14-0.17	6.0-8.9	1.0-4.0	.32	.32			
		58-72	28-60	1.30-1.45	0.0000-0.6	0.11-0.19	6.0-8.9	0.0-1.0	.32	.32			
Barbert----------	1	0-7	18-27	1.20-1.60	0.6-2.0	0.22-0.24	0.0-2.9	4.0-7.0	.28	.28	5	6	48
		7-17	18-27	1.20-1.60	0.6-2.0	0.22-0.24	0.0-2.9	0.2-0.8	.28	.28			
		17-43	45-60	1.20-1.35	0.0000-0.2	0.10-0.14	6.0-8.9	1.0-4.0	.28	.28			
		43-60	18-32	1.20-1.60	0.6-2.0	0.22-0.24	0.0-2.9	0.1-0.8	.28	.28			
Ocheda----------	1	0-20	35-40	1.20-1.30	0.2-0.6	0.16-0.19	6.0-8.9	4.0-6.0	.28	.28	5	4	86
		20-28	35-50	1.25-1.35	0.06-0.6	0.13-0.16	6.0-8.9	0.5-3.0	.28	.28			
		28-57	35-45	1.25-1.40	0.06-0.6	0.11-0.15	6.0-8.9	0.0-2.0	.32	.32			
		57-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L134B:													
Clarion----------	56	0-14	20-27	1.30-1.55	0.6-2.0	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
		14-33	23-30	1.30-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
		33-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Crooksford----------	15	0-10	18-30	1.25-1.50	0.6-2.0	0.20-0.24	3.0-5.9	4.0-6.0	.28	.28	5	6	48
		10-20	18-30	1.25-1.50	0.6-2.0	0.20-0.24	3.0-5.9	3.0-4.0	.28	.28			
		20-26	18-30	1.25-1.50	0.6-2.0	0.18-0.24	3.0-5.9	1.0-2.0	.43	.43			
		26-34	23-30	1.30-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
		34-80	18-27	1.25-1.55	0.6-2.0	0.17-0.24	3.0-5.9	0.5-1.0	.43	.43			
Clarion, moderately eroded----------	14	0-10	20-27	1.30-1.55	0.6-2.0	0.20-0.22	0.0-2.9	2.0-3.5	.24	.24	5	6	48
		10-38	23-30	1.30-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
		38-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Nicollet----------	5	0-10	27-35	1.15-1.25	0.6-2.0	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	7	38
		10-31	25-35	1.25-1.35	0.6-2.0	0.15-0.19	3.0-5.9	1.0-2.0	.32	.32			
		31-42	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32			
		42-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Swanlake----------	5	0-9	18-27	1.35-1.45	0.6-2.0	0.20-0.24	0.0-2.9	2.0-4.0	.28	.28	5	4L	86
		9-43	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		43-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L134B:													
Terril----------	5	0-27	18-26	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2.0	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.45-1.70	0.6-2.0	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L135A:													
Okabena----------	85	0-15	27-32	1.20-1.30	0.6-2.0	0.18-0.24	0.0-2.9	4.0-8.0	.28	.28	5	7	38
		15-22	18-32	1.25-1.35	0.6-2.0	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37			
		22-43	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.37	.37			
		43-48	18-32	1.25-1.35	0.6-2.0	0.16-0.20	0.0-2.9	0.1-0.5	.37	.37			
		48-80	22-32	1.35-1.55	0.6-2.0	0.15-0.19	0.0-2.9	0.0-0.5	.28	.28			
Kingston----------	5	0-16	27-32	1.20-1.30	0.6-2.0	0.18-0.24	0.0-2.9	4.0-8.0	.28	.28	5	7	38
		16-25	18-32	1.25-1.35	0.6-2.0	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37			
		25-60	18-32	1.25-1.35	0.6-2.0	0.16-0.20	0.0-2.9	0.1-0.5	.37	.37			
Nicollet----------	4	0-10	27-35	1.15-1.25	0.6-2.0	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	7	38
		10-31	25-35	1.25-1.35	0.6-2.0	0.15-0.19	3.0-5.9	1.0-2.0	.32	.32			
		31-42	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32			
		42-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Chetomba----------	2	0-23	27-35	1.20-1.30	0.6-2.0	0.18-0.24	3.0-5.9	4.0-8.0	.28	.28	5	7	38
		23-31	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.28	.28			
		31-43	18-35	1.25-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.5-1.0	.37	.37			
		43-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ocheda----------	2	0-20	35-40	1.20-1.30	0.2-0.6	0.16-0.19	6.0-8.9	4.0-6.0	.28	.28	5	4	86
		20-28	35-50	1.25-1.35	0.06-0.6	0.13-0.16	6.0-8.9	0.5-3.0	.28	.28			
		28-57	35-45	1.25-1.40	0.06-0.6	0.11-0.15	6.0-8.9	0.0-2.0	.32	.32			
		57-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Waldorf----------	2	0-15	35-45	1.20-1.30	0.06-0.6	0.18-0.25	6.0-8.9	6.0-8.0	.28	.28	5	4	86
		15-20	35-45	1.20-1.30	0.06-0.6	0.18-0.25	6.0-8.9	4.0-6.0	.28	.28			
		20-53	38-55	1.25-1.35	0.06-0.6	0.13-0.16	6.0-8.9	0.5-1.0	.32	.32			
		53-80	24-45	1.25-1.45	0.06-0.6	0.20-0.22	3.0-5.9	0.0-0.5	.32	.32			
L136A:													
Crooksford----------	80	0-10	18-30	1.25-1.50	0.6-2.0	0.20-0.24	3.0-5.9	4.0-6.0	.28	.28	5	6	48
		10-20	18-30	1.25-1.50	0.6-2.0	0.20-0.24	3.0-5.9	3.0-4.0	.28	.28			
		20-26	18-30	1.25-1.50	0.6-2.0	0.18-0.24	3.0-5.9	1.0-2.0	.43	.43			
		26-34	23-30	1.30-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
		34-80	18-27	1.25-1.55	0.6-2.0	0.17-0.24	3.0-5.9	0.5-1.0	.43	.43			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L136A:													
Nicollet----------	8	0-10	27-35	1.15-1.25	0.6-2.0	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	7	38
		10-31	25-35	1.25-1.35	0.6-2.0	0.15-0.19	3.0-5.9	1.0-2.0	.32	.32			
		31-42	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32			
		42-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Clarion----------	7	0-14	20-27	1.30-1.55	0.6-2.0	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
		14-33	23-30	1.30-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
		33-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Okabena----------	3	0-15	27-32	1.20-1.30	0.6-2.0	0.18-0.24	0.0-2.9	4.0-8.0	.28	.28	5	7	38
		15-22	18-32	1.25-1.35	0.6-2.0	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37			
		22-43	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.37	.37			
		43-48	18-32	1.25-1.35	0.6-2.0	0.16-0.20	0.0-2.9	0.1-0.5	.37	.37			
		48-80	22-32	1.35-1.55	0.6-2.0	0.15-0.19	0.0-2.9	0.0-0.5	.28	.28			
Webster----------	2	0-24	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		24-45	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		45-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L137A:													
Cylinder----------	90	0-14	22-27	1.40-1.45	0.6-2.0	0.20-0.22	3.0-5.9	4.0-5.0	.24	.24	4	6	48
		14-18	22-30	1.45-1.60	0.6-2.0	0.17-0.19	3.0-5.9	2.0-3.0	.32	.32			
		18-28	22-30	1.45-1.60	0.6-2.0	0.17-0.19	3.0-5.9	2.0-3.0	.32	.32			
		28-80	2-12	1.60-1.70	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
Biscay----------	4	0-20	18-30	1.20-1.30	0.6-2.0	0.20-0.22	3.0-5.9	4.0-8.0	.28	.28	4	6	48
		20-28	18-30	1.25-1.35	0.6-2.0	0.17-0.19	3.0-5.9	0.5-1.0	.28	.28			
		28-36	10-28	1.35-1.55	2.0-6.0	0.11-0.17	0.0-2.9	0.5-1.0	.28	.32			
		36-60	1-6	1.55-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
Wadena----------	4	0-13	18-27	1.30-1.50	0.6-2.0	0.20-0.22	0.0-2.9	4.0-6.0	.24	.24	4	6	48
		13-20	18-30	1.35-1.50	0.6-2.0	0.14-0.19	0.0-2.9	1.0-3.0	.32	.32			
		20-30	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.2-0.8	.20	.20			
		30-60	1-5	1.55-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
Linder----------	2	0-15	14-20	1.40-1.45	0.6-2.0	0.20-0.22	0.0-2.9	3.0-4.0	.24	.24	4	5	56
		15-29	10-18	1.45-1.55	2.0-6.0	0.15-0.17	0.0-2.9	0.0-0.5	.24	.24			
		29-60	2-8	1.55-1.75	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.20			
L138B:													
Estherville----------	85	0-13	10-18	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-18	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		18-23	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		23-60	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L138B:													
Wadena----------	7	0-13	18-27	1.30-1.50	0.6-2.0	0.20-0.22	0.0-2.9	4.0-6.0	.24	.24	4	6	48
		13-20	18-30	1.35-1.50	0.6-2.0	0.14-0.19	0.0-2.9	1.0-3.0	.32	.32			
		20-30	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.2-0.8	.20	.20			
		30-60	1-5	1.55-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
Hawick----------	5	0-7	2-10	1.50-1.65	2.0-20	0.03-0.13	0.0-2.9	1.0-3.0	.10	.15	5	8	86
		7-80	1-5	1.55-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			
Cylinder----------	3	0-14	22-27	1.40-1.45	0.6-2.0	0.20-0.22	3.0-5.9	4.0-5.0	.24	.24	4	6	48
		14-18	22-30	1.45-1.60	0.6-2.0	0.17-0.19	3.0-5.9	2.0-3.0	.32	.32			
		18-28	22-30	1.45-1.60	0.6-2.0	0.17-0.19	3.0-5.9	2.0-3.0	.32	.32			
		28-80	2-12	1.60-1.70	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
L139A:													
Wadena----------	85	0-13	18-27	1.30-1.50	0.6-2.0	0.20-0.22	0.0-2.9	4.0-6.0	.24	.24	4	6	48
		13-20	18-30	1.35-1.50	0.6-2.0	0.14-0.19	0.0-2.9	1.0-3.0	.32	.32			
		20-30	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.2-0.8	.20	.20			
		30-60	1-5	1.55-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
Estherville----------	5	0-13	10-18	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-18	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		18-23	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		23-60	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
Kanaranzi----------	5	0-7	18-27	1.25-1.40	0.6-2.0	0.22-0.24	1.0-3.2	3.0-6.0	.32	.32	4	6	48
		7-20	18-30	1.30-1.45	0.6-2.0	0.20-0.22	1.0-4.2	1.0-2.0	.43	.43			
		20-80	0-5	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			
Cylinder----------	3	0-14	22-27	1.40-1.45	0.6-2.0	0.20-0.22	3.0-5.9	4.0-5.0	.24	.24	4	6	48
		14-18	22-30	1.45-1.60	0.6-2.0	0.17-0.19	3.0-5.9	2.0-3.0	.32	.32			
		18-28	22-30	1.45-1.60	0.6-2.0	0.17-0.19	3.0-5.9	2.0-3.0	.32	.32			
		28-80	2-12	1.60-1.70	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
Dickinson----------	2	0-14	10-18	1.50-1.55	2.0-6.0	0.12-0.15	0.0-2.9	1.0-2.0	.20	.20	4	3	86
		14-39	10-15	1.45-1.55	2.0-6.0	0.12-0.15	0.0-2.9	0.2-0.8	.17	.17			
		39-60	4-10	1.60-1.70	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.15	.15			
L139B:													
Wadena----------	85	0-13	18-27	1.30-1.50	0.6-2.0	0.20-0.22	0.0-2.9	4.0-6.0	.24	.24	4	6	48
		13-20	18-30	1.35-1.50	0.6-2.0	0.14-0.19	0.0-2.9	1.0-3.0	.32	.32			
		20-30	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.2-0.8	.20	.20			
		30-60	1-5	1.55-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L139B:													
Estherville----------	7	0-13	10-18	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-18	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		18-23	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		23-60	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
Cylinder----------	3	0-14	22-27	1.40-1.45	0.6-2.0	0.20-0.22	3.0-5.9	4.0-5.0	.24	.24	4	6	48
		14-18	22-30	1.45-1.60	0.6-2.0	0.17-0.19	3.0-5.9	2.0-3.0	.32	.32			
		18-28	22-30	1.45-1.60	0.6-2.0	0.17-0.19	3.0-5.9	2.0-3.0	.32	.32			
		28-80	2-12	1.60-1.70	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
Dickinson----------	3	0-14	10-18	1.50-1.55	2.0-6.0	0.12-0.15	0.0-2.9	1.0-2.0	.20	.20	4	3	86
		14-39	10-15	1.45-1.55	2.0-6.0	0.12-0.15	0.0-2.9	0.2-0.8	.17	.17			
		39-60	4-10	1.60-1.70	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.15	.15			
Biscay----------	2	0-20	18-30	1.20-1.30	0.6-2.0	0.20-0.22	3.0-5.9	4.0-8.0	.28	.28	4	6	48
		20-28	18-30	1.25-1.35	0.6-2.0	0.17-0.19	3.0-5.9	0.5-1.0	.28	.28			
		28-36	10-28	1.35-1.55	2.0-6.0	0.11-0.17	0.0-2.9	0.5-1.0	.28	.32			
		36-60	1-6	1.55-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.10			
L140A:													
Ocheda----------	85	0-20	35-40	1.20-1.30	0.2-0.6	0.16-0.19	6.0-8.9	4.0-6.0	.28	.28	5	4	86
		20-28	35-50	1.25-1.35	0.06-0.6	0.13-0.16	6.0-8.9	0.5-3.0	.28	.28			
		28-57	35-45	1.25-1.40	0.06-0.6	0.11-0.15	6.0-8.9	0.0-2.0	.32	.32			
		57-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Guckeen----------	5	0-15	35-40	1.20-1.30	0.2-0.6	0.16-0.19	6.0-8.9	4.0-6.0	.28	.28	5	4	86
		15-24	35-50	1.25-1.35	0.06-0.6	0.13-0.16	6.0-8.9	0.5-1.5	.28	.28			
		24-30	24-40	1.35-1.80	0.06-0.6	0.15-0.17	3.0-5.9	0.2-0.8	.37	.37			
		30-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Collinwood----------	3	0-16	35-40	1.20-1.30	0.2-0.6	0.14-0.17	3.0-5.9	5.0-8.0	.32	.32	5	4	86
		16-32	35-60	1.25-1.35	0.06-0.6	0.13-0.16	6.0-8.9	1.0-4.0	.32	.32			
		32-60	35-45	1.25-1.40	0.06-0.6	0.11-0.15	6.0-8.9	0.0-2.0	.32	.32			
Nicollet----------	3	0-10	27-35	1.15-1.25	0.6-2.0	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	7	38
		10-31	25-35	1.25-1.35	0.6-2.0	0.15-0.19	3.0-5.9	1.0-2.0	.32	.32			
		31-42	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32			
		42-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Clarion----------	2	0-14	20-27	1.30-1.55	0.6-2.0	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
		14-33	23-30	1.30-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
		33-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L140A:													
Marna----------	2	0-20	35-50	1.20-1.30	0.06-0.2	0.18-0.22	6.0-8.9	4.0-8.0	.28	.28	5	4	86
		20-32	35-60	1.25-1.40	0.06-0.2	0.13-0.16	6.0-8.9	0.5-1.0	.32	.32			
		32-41	28-35	1.35-1.50	0.2-0.6	0.15-0.19	3.0-5.9	0.2-0.8	.28	.28			
		41-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L141A:													
Spillville, occasionally flooded	86	0-51	18-26	1.45-1.55	0.6-2.0	0.19-0.21	3.0-5.9	4.0-6.0	.24	.24	5	6	48
		51-60	14-24	1.55-1.70	0.6-6.0	0.15-0.18	0.0-2.9	2.0-3.0	.28	.28			
Coland, occasionally flooded----------	8	0-25	27-35	1.40-1.50	0.6-2.0	0.20-0.22	3.0-5.9	5.0-7.0	.24	.24	5	7	38
		25-54	22-28	1.40-1.50	0.6-2.0	0.20-0.22	3.0-5.9	2.0-5.0	.24	.24			
		54-60	12-26	1.50-1.65	0.6-6.0	0.13-0.17	0.0-2.9	0.2-0.8	.28	.28			
Hanlon, occasionally flooded----------	4	0-24	12-18	1.45-1.55	2.0-6.0	0.16-0.18	0.0-2.9	2.0-3.0	.20	.20	5	3	86
		24-52	12-18	1.45-1.55	2.0-6.0	0.16-0.18	0.0-2.9	1.0-2.0	.20	.20			
		52-57	5-10	1.55-1.70	2.0-6.0	0.11-0.13	0.0-2.9	1.0-2.0	.20	.20			
		57-80	2-18	1.55-1.70	2.0-6.0	0.12-0.19	0.0-2.9	0.0-1.0	.24	.24			
Havelock, occasionally flooded----------	2	0-23	27-35	1.40-1.50	0.6-2.0	0.20-0.22	6.0-8.9	5.0-7.0	.24	.24	5	4L	86
		23-35	27-35	1.40-1.50	0.6-2.0	0.20-0.22	6.0-8.9	1.0-2.0	.28	.28			
		35-60	12-28	1.50-1.65	2.0-6.0	0.13-0.17	0.0-2.9	0.0-0.5	.28	.28			
L144A:													
Chetomba----------	75	0-23	27-35	1.20-1.30	0.6-2.0	0.18-0.24	3.0-5.9	4.0-8.0	.28	.28	5	7	38
		23-31	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.28	.28			
		31-43	18-35	1.25-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.5-1.0	.37	.37			
		43-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Waldorf----------	13	0-15	35-45	1.20-1.30	0.06-0.6	0.18-0.25	6.0-8.9	6.0-8.0	.28	.28	5	4	86
		15-20	35-45	1.20-1.30	0.06-0.6	0.18-0.25	6.0-8.9	4.0-6.0	.28	.28			
		20-53	38-55	1.25-1.35	0.06-0.6	0.13-0.16	6.0-8.9	0.5-1.0	.32	.32			
		53-80	24-45	1.25-1.45	0.06-0.6	0.20-0.22	3.0-5.9	0.0-0.5	.32	.32			
Webster----------	5	0-24	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		24-45	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		45-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Okoboji, depressional	3	0-26	35-42	1.30-1.40	0.2-0.6	0.21-0.23	6.0-8.9	5.0-10	.32	.32	5	4	86
		26-42	38-45	1.30-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.5-2.0	.32	.32			
		42-60	28-35	1.35-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.2-0.8	.32	.32			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L144A:													
Prinsburg----------	3	0-19	27-35	1.20-1.30	0.6-2.0	0.18-0.24	3.0-5.9	4.0-8.0	.28	.28	5	4L	86
		19-29	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.37	.37			
		29-46	18-35	1.25-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.5-1.0	.37	.37			
		46-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Okabena----------	1	0-15	27-32	1.20-1.30	0.6-2.0	0.18-0.24	0.0-2.9	4.0-8.0	.28	.28	5	7	38
		15-22	18-32	1.25-1.35	0.6-2.0	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37			
		22-43	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.37	.37			
		43-48	18-32	1.25-1.35	0.6-2.0	0.16-0.20	0.0-2.9	0.1-0.5	.37	.37			
		48-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L145A:													
Canisteo----------	80	0-17	27-35	1.25-1.35	0.6-2.0	0.18-0.22	3.0-5.9	4.0-8.0	.24	.24	5	4L	86
		17-27	25-35	1.35-1.50	0.6-2.0	0.15-0.19	3.0-5.9	2.0-4.0	.32	.32			
		27-60	22-30	1.45-1.60	0.6-2.0	0.14-0.16	0.0-2.9	0.0-0.5	.32	.32			
Glencoe, depressional	10	0-10	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		10-29	25-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		29-40	25-35	1.35-1.50	0.2-2.0	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		40-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Webster----------	5	0-24	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		24-45	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		45-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Prinsburg----------	4	0-19	27-35	1.20-1.30	0.6-2.0	0.18-0.24	3.0-5.9	4.0-8.0	.28	.28	5	4L	86
		19-29	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.37	.37			
		29-46	18-35	1.25-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.5-1.0	.37	.37			
		46-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Crippin----------	1	0-15	22-27	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	5.0-6.0	.24	.24	5	4L	86
		15-27	24-30	1.40-1.55	0.6-2.0	0.17-0.19	1.0-4.2	0.8-2.5	.28	.28			
		27-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L146A:													
Glencoe, depressional	80	0-10	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		10-29	25-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		29-40	25-35	1.35-1.50	0.2-2.0	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		40-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Canisteo----------	10	0-18	27-35	1.25-1.35	0.6-2.0	0.18-0.22	3.0-5.9	4.0-7.0	.24	.24	5	4L	86
		18-39	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32			
		39-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L146A:													
Harps----------	10	0-13	27-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	3.0-5.0	.24	.24	5	4L	86
		13-30	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		30-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L150A:													
Prinsburg----------	75	0-19	27-35	1.20-1.30	0.6-2.0	0.18-0.24	3.0-5.9	4.0-8.0	.28	.28	5	4L	86
		19-29	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.37	.37			
		29-46	18-35	1.25-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.5-1.0	.37	.37			
		46-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Chetomba----------	14	0-23	27-35	1.20-1.30	0.6-2.0	0.18-0.24	3.0-5.9	4.0-8.0	.28	.28	5	7	38
		23-31	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.28	.28			
		31-43	18-35	1.25-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.5-1.0	.37	.37			
		43-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Webster----------	4	0-24	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		24-45	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		45-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Canisteo----------	3	0-17	27-35	1.25-1.35	0.6-2.0	0.18-0.22	3.0-5.9	4.0-8.0	.24	.24	5	4L	86
		17-27	25-35	1.35-1.50	0.6-2.0	0.15-0.19	3.0-5.9	2.0-4.0	.32	.32			
		27-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Okabena----------	2	0-15	27-32	1.20-1.30	0.6-2.0	0.18-0.24	0.0-2.9	4.0-8.0	.28	.28	5	7	38
		15-22	18-32	1.25-1.35	0.6-2.0	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37			
		22-43	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.37	.37			
		43-48	18-32	1.25-1.35	0.6-2.0	0.16-0.20	0.0-2.9	0.1-0.5	.37	.37			
		48-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Okoboji, depressional	2	0-26	35-42	1.30-1.40	0.2-0.6	0.21-0.23	6.0-8.9	5.0-10	.32	.32	5	4	86
		26-42	38-45	1.30-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.5-2.0	.32	.32			
		42-60	28-35	1.35-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.2-0.8	.32	.32			
L151A:													
Glencoe, ponded-------	80	0-42	27-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	10-18	.28	.28	5	8	0
		42-50	25-35	1.35-1.50	0.2-2.0	0.15-0.19	3.0-5.9	2.0-6.0	.28	.28			
		50-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Okoboji, ponded-------	14	0-10	30-40	1.20-1.25	0.6-2.0	0.22-0.25	3.0-5.9	10-18	.32	.32	5	8	0
		10-52	35-45	1.35-1.40	0.2-0.6	0.18-0.20	6.0-8.9	4.0-8.0	.37	.37			
		52-60	35-45	1.35-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.2-1.0	.37	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L151A:													
Klossner, ponded------	6	0-26	5-30	0.25-0.55	0.2-6.0	0.35-0.48	0.0-0.0	25-60	.02	.02	2	8	0
		26-33	22-35	1.10-1.25	0.6-2.0	0.22-0.26	3.0-5.9	10-20	.37	.37			
		33-40	22-35	1.30-1.40	0.2-2.0	0.18-0.22	3.0-5.9	5.0-10	.28	.28			
		40-80	15-32	1.35-1.50	0.6-2.0	0.15-0.19	3.0-5.9	0.0-5.0	.28	.28			
L152B:													
Lowlein----------	60	0-14	10-18	1.30-1.50	2.0-6.0	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	5	3	86
		14-24	10-18	1.35-1.45	2.0-6.0	0.12-0.14	0.0-2.9	1.0-2.0	.24	.24			
		24-31	1-10	1.55-1.65	6.0-20	0.06-0.11	0.0-2.9	0.0-1.0	.15	.15			
		31-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Round Lake----------	20	0-11	5-15	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		11-14	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		14-26	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		26-35	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		35-48	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		48-80	18-35	1.30-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.1-0.8	.37	.37			
Nicollet----------	12	0-17	27-35	1.15-1.25	0.6-2.0	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		17-33	25-35	1.25-1.35	0.6-2.0	0.15-0.19	3.0-5.9	0.8-2.0	.32	.32			
		33-36	25-35	1.25-1.35	0.6-2.0	0.15-0.19	3.0-5.9	0.2-0.8	.32	.32			
		36-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Farrar----------	6	0-16	10-18	1.45-1.50	2.0-6.0	0.16-0.18	0.0-2.9	1.0-2.0	.20	.20	5	3	86
		16-25	10-16	1.50-1.60	2.0-6.0	0.15-0.17	0.0-2.9	0.5-1.0	.20	.20			
		25-41	18-24	1.35-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.0-0.5	.37	.37			
		41-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Webster----------	2	0-19	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		19-26	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		26-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L153A:													
Essexville----------	85	0-8	12-18	1.30-1.50	2.0-6.0	0.13-0.18	0.0-2.9	4.0-8.0	.20	.20	5	3	86
		8-13	2-12	1.40-1.55	6.0-20	0.04-0.12	0.0-2.9	0.5-3.0	.17	.17			
		13-22	2-12	1.40-1.55	6.0-20	0.04-0.12	0.0-2.9	0.2-1.0	.17	.17			
		22-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Canisteo----------	5	0-18	27-35	1.25-1.35	0.6-2.0	0.18-0.22	3.0-5.9	4.0-7.0	.24	.24	5	4L	86
		18-39	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32			
		39-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L153A:													
Glencoe, depressional	4	0-10	27-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
		10-35	25-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		35-48	25-35	1.35-1.50	0.2-2.0	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		48-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Belleville----------	3	0-11	12-18	1.30-1.50	2.0-6.0	0.13-0.18	0.0-2.9	3.0-6.0	.20	.20	3	3	86
		11-27	2-12	1.40-1.55	6.0-20	0.04-0.12	0.0-2.9	0.1-0.5	.17	.17			
		27-48	20-30	1.45-1.70	0.2-0.6	0.12-0.20	3.0-5.9	0.1-0.5	.32	.32			
		48-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Very poorly drained soils in depressions	2	0-13	25-27	1.35-1.45	0.6-2.0	0.18-0.22	3.0-5.9	5.0-10	.28	.28	5	6	48
		13-31	18-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	2.0-5.0	.28	.28			
		31-45	15-35	1.35-1.50	0.2-2.0	0.15-0.19	3.0-5.9	0.5-2.0	.28	.28			
		45-80	15-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Somewhat poorly drained soils--------	1	0-10	3-6	1.50-1.55	6.0-20	0.08-0.12	0.0-2.9	1.0-4.0	.17	.17	5	2	134
		10-24	2-6	1.50-1.55	6.0-20	0.07-0.11	0.0-2.9	0.5-1.0	.17	.17			
		24-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L154E:													
Belview----------	60	0-9	18-27	1.35-1.45	0.6-2.0	0.20-0.22	0.0-2.9	3.0-5.0	.28	.28	5	4L	86
		9-50	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		50-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ridgeton----------	22	0-32	18-26	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	3.0-8.0	.24	.24	5	6	48
		32-40	22-30	1.45-1.70	0.6-2.0	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		40-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Omsrud----------	14	0-16	20-26	1.25-1.35	0.6-2.0	0.20-0.22	0.0-2.9	2.0-4.0	.24	.24	5	6	48
		16-26	22-30	1.30-1.45	0.6-2.0	0.17-0.19	0.0-2.9	0.5-2.0	.32	.32			
		26-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Delft----------	2	0-37	25-35	1.40-1.65	0.2-0.6	0.18-0.20	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		37-50	20-32	1.30-1.40	0.6-2.0	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
		50-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril----------	2	0-24	18-26	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		24-37	24-30	1.40-1.45	0.6-2.0	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		37-57	22-30	1.45-1.70	0.6-2.0	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		57-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L155A:													
Okoboji, ponded-------	85	0-10	30-40	1.20-1.25	0.6-2.0	0.22-0.25	3.0-5.9	10-18	.32	.32	5	8	0
		10-52	35-45	1.35-1.40	0.2-0.6	0.18-0.20	6.0-8.9	4.0-8.0	.37	.37			
		52-60	35-45	1.35-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.2-1.0	.37	.37			
Glencoe, ponded-------	10	0-42	27-35	1.35-1.45	0.2-2.0	0.18-0.22	3.0-5.9	10-18	.28	.28	5	8	0
		42-50	25-35	1.35-1.50	0.2-2.0	0.15-0.19	3.0-5.9	2.0-6.0	.28	.28			
		50-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Blue Earth, ponded----	3	0-50	18-32	0.20-0.80	0.6-2.0	0.18-0.24	3.0-5.9	10-25	.28	.28	5	8	0
		50-60	18-32	0.20-0.80	0.6-2.0	0.18-0.24	0.0-2.9	10-25	.28	.28			
Klossner, ponded------	2	0-26	5-30	0.25-0.55	0.2-6.0	0.35-0.48	0.0-0.0	25-60	.02	.02	2	8	0
		26-33	22-35	1.10-1.25	0.6-2.0	0.22-0.26	3.0-5.9	10-20	.37	.37			
		33-40	22-35	1.30-1.40	0.2-2.0	0.18-0.22	3.0-5.9	5.0-10	.28	.28			
		40-80	15-32	1.35-1.50	0.6-2.0	0.15-0.19	3.0-5.9	0.0-5.0	.28	.28			
L156C2:													
Omsrud, moderately eroded----------	44	0-9	20-26	1.35-1.45	0.6-2.0	0.20-0.22	0.0-2.9	2.0-4.0	.24	.24	5	6	48
		9-19	22-30	1.35-1.50	0.6-2.0	0.17-0.19	0.0-2.9	0.5-2.0	.32	.32			
		19-36	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		36-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Storden, moderately eroded----------	24	0-7	18-27	1.35-1.45	0.6-2.0	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	5	4L	86
		7-55	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		55-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Pilot Grove----------	20	0-9	5-15	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		9-17	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		17-21	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		21-58	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		58-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hawick----------	8	0-7	2-10	1.50-1.65	2.0-20	0.03-0.13	0.0-2.9	1.0-3.0	.10	.15	5	8	0
		7-80	1-5	1.55-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			
Delft----------	2	0-37	25-35	1.40-1.65	0.2-0.6	0.18-0.20	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		37-50	20-32	1.30-1.40	0.6-2.0	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
		50-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril----------	2	0-27	18-26	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2.0	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.45-1.70	0.6-2.0	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L156D2:													
Omsrud, moderately eroded----------	50	0-9	20-26	1.35-1.45	0.6-2.0	0.20-0.22	0.0-2.9	2.0-4.0	.24	.24	5	6	48
		9-19	22-30	1.35-1.50	0.6-2.0	0.17-0.19	0.0-2.9	0.5-2.0	.32	.32			
		19-36	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		36-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Storden, moderately eroded----------	25	0-7	18-27	1.35-1.45	0.6-2.0	0.20-0.22	0.0-2.9	1.0-2.0	.28	.28	5	4L	86
		7-55	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		55-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Pilot Grove----------	15	0-9	5-15	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		9-17	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		17-21	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		21-58	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		58-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Hawick----------	4	0-7	2-10	1.50-1.65	2.0-20	0.03-0.13	0.0-2.9	1.0-3.0	.10	.15	5	8	0
		7-80	1-5	1.55-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			
Ridgeton----------	2	0-23	18-26	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		23-38	24-30	1.40-1.45	0.6-2.0	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		38-50	22-30	1.45-1.70	0.6-2.0	0.16-0.18	0.0-2.9	0.8-2.5	.32	.32			
		50-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Delft----------	2	0-37	25-35	1.40-1.65	0.2-0.6	0.18-0.20	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		37-50	20-32	1.30-1.40	0.6-2.0	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
		50-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril----------	2	0-27	18-26	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2.0	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.45-1.70	0.6-2.0	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L157A:													
Lowlein----------	78	0-14	10-18	1.30-1.50	2.0-6.0	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	5	3	86
		14-24	10-18	1.35-1.45	2.0-6.0	0.12-0.14	0.0-2.9	1.0-2.0	.24	.24			
		24-31	1-10	1.55-1.65	6.0-20	0.06-0.11	0.0-2.9	0.0-1.0	.15	.15			
		31-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Nicollet----------	14	0-17	27-35	1.15-1.25	0.6-2.0	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		17-33	25-35	1.25-1.35	0.6-2.0	0.15-0.19	3.0-5.9	0.8-2.0	.32	.32			
		33-36	25-35	1.25-1.35	0.6-2.0	0.15-0.19	3.0-5.9	0.2-0.8	.32	.32			
		36-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L157A:													
Round Lake----------	4	0-11	5-15	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		11-14	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		14-26	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		26-35	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		35-48	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		48-80	18-35	1.30-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.1-0.8	.37	.37			
Webster----------	2	0-19	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		19-26	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		26-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Farrar----------	2	0-16	10-18	1.45-1.50	2.0-6.0	0.16-0.18	0.0-2.9	1.0-2.0	.20	.20	5	3	86
		16-25	10-16	1.50-1.60	2.0-6.0	0.15-0.17	0.0-2.9	0.5-1.0	.20	.20			
		25-41	18-24	1.35-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.0-0.5	.37	.37			
		41-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L158B:													
Round Lake----------	80	0-11	5-15	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		11-14	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		14-26	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		26-35	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		35-48	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		48-80	18-35	1.30-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.1-0.8	.37	.37			
Lowlein----------	13	0-14	10-18	1.30-1.50	2.0-6.0	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	5	3	86
		14-24	10-18	1.35-1.45	2.0-6.0	0.12-0.14	0.0-2.9	1.0-2.0	.24	.24			
		24-31	1-10	1.55-1.65	6.0-20	0.06-0.11	0.0-2.9	0.0-1.0	.15	.15			
		31-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Ocheyedan----------	3	0-10	24-27	1.40-1.45	0.6-2.0	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
		10-30	14-24	1.45-1.60	0.6-2.0	0.16-0.18	0.0-2.9	0.5-1.0	.32	.32			
		30-60	12-24	1.45-1.70	0.6-2.0	0.19-0.21	0.0-2.9	0.1-0.5	.43	.43			
Estherville----------	2	0-13	5-15	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-18	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		18-23	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		23-60	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
Webster----------	2	0-19	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		19-26	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		26-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L159A:													
Knoke, depressional---	85	0-10	27-36	1.30-1.40	0.2-0.6	0.21-0.23	6.0-8.9	10-18	.32	.32	5	4L	86
		10-42	35-45	1.30-1.40	0.2-0.6	0.21-0.23	6.0-8.9	4.0-6.0	.37	.37			
		42-80	25-35	1.35-1.45	0.2-0.6	0.18-0.20	6.0-8.9	2.0-4.0	.37	.37			
Okoboji, depressional	5	0-26	35-42	1.30-1.40	0.2-0.6	0.21-0.23	6.0-8.9	5.0-10	.32	.32	5	4	86
		26-42	35-50	1.30-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.5-2.0	.32	.32			
		42-60	25-35	1.35-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.2-0.8	.32	.32			
Essexville----------	4	0-8	12-18	1.30-1.50	2.0-6.0	0.13-0.18	0.0-2.9	4.0-8.0	.20	.20	5	3	86
		8-13	2-12	1.40-1.55	6.0-20	0.04-0.12	0.0-2.9	0.5-3.0	.17	.17			
		13-22	2-12	1.40-1.55	6.0-20	0.04-0.12	0.0-2.9	0.2-1.0	.17	.17			
		22-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Canisteo----------	3	0-18	27-35	1.25-1.35	0.6-2.0	0.18-0.22	3.0-5.9	4.0-7.0	.24	.24	5	4L	86
		18-39	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.5-1.0	.32	.32			
		39-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Canisteo, depressional	3	0-17	27-32	1.25-1.35	0.6-2.0	0.18-0.22	3.0-5.9	4.0-8.0	.24	.24	5	4L	86
		17-30	20-35	1.35-1.50	0.6-2.0	0.15-0.19	3.0-5.9	2.0-4.0	.32	.32			
		30-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L160B:													
Dickinson, loamy substratum----------	85	0-16	10-18	1.50-1.55	2.0-6.0	0.12-0.15	0.0-2.9	1.0-2.0	.20	.20	4	3	86
		16-30	10-15	1.45-1.55	2.0-6.0	0.12-0.15	0.0-2.9	0.2-0.8	.17	.17			
		30-47	4-10	1.60-1.70	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.15	.15			
		47-76	4-10	1.60-1.70	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.15	.15			
		76-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Farrar----------	8	0-16	10-18	1.45-1.50	2.0-6.0	0.16-0.18	0.0-2.9	1.0-2.0	.20	.20	5	3	86
		16-25	10-16	1.50-1.60	2.0-6.0	0.15-0.17	0.0-2.9	0.5-1.0	.20	.20			
		25-41	18-24	1.35-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.0-0.5	.37	.37			
		41-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Lowlein----------	7	0-14	10-18	1.30-1.50	2.0-6.0	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	5	3	86
		14-24	10-18	1.35-1.45	2.0-6.0	0.12-0.14	0.0-2.9	1.0-2.0	.24	.24			
		24-31	1-10	1.55-1.65	6.0-20	0.06-0.11	0.0-2.9	0.0-1.0	.15	.15			
		31-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L161C:													
Estherville----------	38	0-13	5-15	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-18	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		18-23	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		23-60	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L161C:													
Pilot Grove----------	38	0-9	5-15	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		9-17	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		17-22	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		22-39	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		39-55	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		55-80	18-35	1.30-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.1-0.8	.37	.37			
Well drained soils----	15	0-8	24-27	1.40-1.45	0.6-2.0	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
		8-28	14-24	1.45-1.60	0.6-2.0	0.16-0.18	0.0-2.9	0.5-1.0	.32	.32			
		28-80	12-24	1.45-1.70	0.6-2.0	0.19-0.21	0.0-2.9	0.1-0.5	.43	.43			
Hawick----------	5	0-7	2-10	1.50-1.65	2.0-20	0.03-0.13	0.0-2.9	1.0-3.0	.10	.15	5	8	0
		7-80	1-5	1.55-1.65	20-40	0.02-0.06	0.0-2.9	0.0-0.5	.10	.15			
Delft----------	2	0-37	25-35	1.40-1.65	0.2-0.6	0.18-0.20	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		37-50	20-32	1.30-1.40	0.6-2.0	0.19-0.22	0.0-2.9	0.5-2.0	.32	.32			
		50-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Terril----------	2	0-27	18-26	1.35-1.40	0.6-2.0	0.20-0.22	0.0-2.9	3.0-5.0	.24	.24	5	6	48
		27-40	24-30	1.40-1.45	0.6-2.0	0.17-0.19	0.0-2.9	2.0-4.0	.28	.28			
		40-63	22-30	1.45-1.70	0.6-2.0	0.16-0.18	0.0-2.9	0.0-1.0	.32	.32			
		63-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L162B:													
Clarion----------	45	0-14	20-27	1.30-1.55	0.6-2.0	0.20-0.22	0.0-2.9	3.0-6.0	.24	.24	5	6	48
		14-33	23-30	1.30-1.55	0.6-2.0	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
		33-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Round Lake----------	30	0-11	5-15	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		11-14	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		14-26	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		26-35	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		35-48	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		48-80	18-35	1.30-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.1-0.8	.37	.37			
Estherville----------	8	0-13	5-15	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-18	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		18-23	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		23-60	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
Lowlein----------	5	0-14	10-18	1.30-1.50	2.0-6.0	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	5	3	86
		14-24	10-18	1.35-1.45	2.0-6.0	0.12-0.14	0.0-2.9	1.0-2.0	.24	.24			
		24-31	1-10	1.55-1.65	6.0-20	0.06-0.11	0.0-2.9	0.0-1.0	.15	.15			
		31-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L162B:													
Nicollet----------	5	0-17	27-35	1.30-1.40	0.6-2.0	0.17-0.22	3.0-5.9	4.0-8.0	.24	.24	5	6	48
		17-33	25-35	1.30-1.40	0.6-2.0	0.15-0.19	3.0-5.9	0.8-2.0	.32	.32			
		33-36	25-35	1.30-1.40	0.6-2.0	0.15-0.19	3.0-5.9	0.2-0.8	.32	.32			
		36-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Swanlake----------	5	0-9	18-27	1.35-1.45	0.6-2.0	0.20-0.24	0.0-2.9	2.0-4.0	.28	.28	5	4L	86
		9-43	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
		43-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Webster----------	2	0-19	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		19-26	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		26-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L163A:													
Okoboji, depressional	92	0-26	35-42	1.30-1.40	0.2-0.6	0.21-0.23	6.0-8.9	5.0-10	.32	.32	5	4	86
		26-42	35-50	1.30-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.5-2.0	.32	.32			
		42-60	25-35	1.35-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.2-0.8	.32	.32			
Canisteo----------	2	0-17	27-35	1.25-1.35	0.6-2.0	0.18-0.22	3.0-5.9	4.0-8.0	.24	.24	5	4L	86
		17-27	25-35	1.35-1.50	0.6-2.0	0.15-0.19	3.0-5.9	2.0-4.0	.32	.32			
		27-60	22-30	1.45-1.60	0.6-2.0	0.14-0.16	0.0-2.9	0.0-0.5	.32	.32			
Harpster----------	2	0-10	27-35	1.05-1.25	0.6-2.0	0.21-0.24	3.0-5.9	5.0-6.0	.28	.28	5	4L	86
		10-18	27-35	1.05-1.25	0.6-2.0	0.21-0.24	3.0-5.9	0.5-1.0	.28	.28			
		18-40	22-35	1.20-1.50	0.6-2.0	0.18-0.22	3.0-5.9	0.5-1.0	.28	.28			
		40-60	22-28	1.25-1.55	0.6-2.0	0.17-0.22	3.0-5.9	0.0-0.5	.28	.28			
Knoke, depressional---	2	0-10	27-36	1.30-1.40	0.2-0.6	0.21-0.23	6.0-8.9	10-18	.32	.32	5	4L	86
		10-42	35-45	1.30-1.40	0.2-0.6	0.21-0.23	6.0-8.9	4.0-6.0	.37	.37			
		42-80	25-35	1.35-1.45	0.2-0.6	0.18-0.20	6.0-8.9	2.0-4.0	.37	.37			
Prinsburg----------	2	0-19	27-35	1.20-1.30	0.6-2.0	0.18-0.24	3.0-5.9	4.0-8.0	.28	.28	5	4L	86
		19-29	18-35	1.25-1.35	0.6-2.0	0.16-0.22	3.0-5.9	1.0-2.0	.37	.37			
		29-46	18-35	1.25-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.5-1.0	.37	.37			
		46-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
L170B:													
Estherville----------	50	0-13	5-15	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		13-18	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		18-23	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		23-60	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
L170B:													
Round Lake----------	45	0-11	5-15	1.25-1.35	2.0-6.0	0.13-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
		11-14	10-18	1.35-1.60	2.0-6.0	0.13-0.18	0.0-2.9	0.0-0.5	.20	.20			
		14-26	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		26-35	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		35-48	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		48-80	18-35	1.30-1.40	0.6-2.0	0.16-0.22	0.0-2.9	0.1-0.8	.37	.37			
Lowlein----------	3	0-14	10-18	1.30-1.50	2.0-6.0	0.13-0.15	0.0-2.9	3.0-5.0	.20	.20	5	3	86
		14-24	10-18	1.35-1.45	2.0-6.0	0.12-0.14	0.0-2.9	1.0-2.0	.24	.24			
		24-31	1-10	1.55-1.65	6.0-20	0.06-0.11	0.0-2.9	0.0-1.0	.15	.15			
		31-60	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
Poorly drained soils--	2	0-22	26-35	1.35-1.40	0.6-2.0	0.19-0.21	3.0-5.9	4.0-7.0	.24	.24	5	6	48
		22-30	25-35	1.40-1.50	0.6-2.0	0.16-0.18	3.0-5.9	0.8-2.5	.32	.32			
		30-57	0-8	1.50-1.65	6.0-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.10			
		57-80	20-30	1.35-1.55	0.6-2.0	0.15-0.19	1.0-4.2	0.1-0.5	.32	.37			
M-W.													
Water, miscellaneous													
P1B:													
Annieville----------	80	0-11	32-35	1.25-1.30	0.6-2.0	0.21-0.23	4.8-5.8	3.0-6.0	.32	.32	5	7	38
		11-52	27-35	1.30-1.35	0.6-2.0	0.18-0.20	3.2-5.8	0.5-1.0	.43	.43			
		52-57	5-18	1.50-1.70	2.0-6.0	0.08-0.13	0.0-0.0	0.0-0.5	.24	.24			
		57-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
McCreath----------	10	0-17	32-35	1.25-1.30	0.6-2.0	0.21-0.23	4.8-5.8	4.0-6.0	.32	.32	5	7	38
		17-35	27-35	1.30-1.35	0.6-2.0	0.18-0.20	3.2-5.8	0.5-1.0	.43	.43			
		35-44	20-30	1.30-1.45	0.6-2.0	0.17-0.20	1.0-4.2	0.1-0.5	.43	.43			
		44-49	12-18	1.50-1.70	2.0-6.0	0.08-0.13	0.0-0.0	0.0-0.5	.24	.24			
		49-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Galva----------	5	0-11	27-35	1.25-1.30	0.6-2.0	0.19-0.22	3.2-5.8	3.0-6.0	.28	.28	5	7	38
		11-31	24-35	1.20-1.30	0.6-2.0	0.17-0.20	2.3-5.8	0.5-1.0	.32	.32			
		31-45	20-30	1.30-1.45	0.6-2.0	0.17-0.20	1.0-4.2	0.1-0.5	.43	.43			
		45-60	18-25	1.30-1.50	0.6-2.0	0.17-0.20	1.0-2.6	0.1-0.5	.43	.43			
Primghar----------	5	0-21	27-35	1.20-1.30	0.6-2.0	0.19-0.22	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		21-42	27-35	1.20-1.35	0.6-2.0	0.17-0.20	3.2-5.8	0.5-1.0	.43	.43			
		42-60	25-35	1.20-1.40	0.6-2.0	0.17-0.20	2.9-5.8	0.1-0.5	.43	.43			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
P2A:													
McCreath----------	80	0-17	32-35	1.25-1.30	0.6-2.0	0.21-0.23	4.8-5.8	4.0-6.0	.32	.32	5	7	38
		17-35	27-35	1.30-1.35	0.6-2.0	0.18-0.20	3.2-5.8	0.5-1.0	.43	.43			
		35-44	20-30	1.30-1.45	0.6-2.0	0.17-0.20	1.0-4.2	0.1-0.5	.43	.43			
		44-49	12-18	1.50-1.70	2.0-6.0	0.08-0.13	0.0-0.0	0.0-0.5	.24	.24			
		49-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Gillett Grove---------	10	0-17	30-35	1.30-1.35	0.6-2.0	0.21-0.23	4.2-7.3	4.0-8.0	.28	.28	5	7	38
		17-44	30-35	1.35-1.40	0.6-2.0	0.18-0.20	4.2-5.8	0.5-1.0	.43	.43			
		44-57	22-30	1.35-1.45	0.6-2.0	0.20-0.22	1.6-4.2	0.1-0.5	.43	.43			
		57-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Annieville----------	5	0-11	32-35	1.25-1.30	0.6-2.0	0.21-0.23	4.8-5.8	3.0-6.0	.32	.32	5	7	38
		11-52	27-35	1.30-1.35	0.6-2.0	0.18-0.20	3.2-5.8	0.5-1.0	.43	.43			
		52-57	5-18	1.50-1.70	2.0-6.0	0.08-0.13	0.0-0.0	0.0-0.5	.24	.24			
		57-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Primghar----------	5	0-21	27-35	1.20-1.30	0.6-2.0	0.19-0.22	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		21-42	27-35	1.20-1.35	0.6-2.0	0.17-0.20	3.2-5.8	0.5-1.0	.43	.43			
		42-60	25-35	1.20-1.40	0.6-2.0	0.17-0.20	2.9-5.8	0.1-0.5	.43	.43			
P3A:													
Biscay, occasionally flooded----------	85	0-16	27-32	1.20-1.30	0.6-2.0	0.20-0.22	3.2-4.2	4.0-8.0	.28	.28	4	7	38
		16-21	25-32	1.25-1.35	0.6-2.0	0.17-0.19	1.0-4.2	4.0-6.0	.28	.28			
		21-31	25-32	1.25-1.35	0.6-2.0	0.17-0.19	1.0-4.2	0.5-1.0	.28	.28			
		31-60	1-6	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.1-0.5	.05	.10			
Cylinder, occasionally flooded----------	10	0-18	22-27	1.45-1.60	0.6-2.0	0.20-0.22	1.6-3.2	4.0-6.0	.24	.24	4	6	48
		18-28	22-30	1.45-1.60	0.6-2.0	0.17-0.19	1.6-4.2	0.5-1.0	.24	.24			
		28-39	2-12	1.60-1.70	20-40	0.02-0.04	0.0-0.5	0.0-0.5	.10	.15			
		39-60	2-12	1.60-1.70	20-40	0.02-0.04	0.0-0.5	0.0-0.5	.10	.15			
Talcot, occasionally flooded----------	5	0-22	30-35	1.20-1.30	0.6-2.0	0.18-0.22	4.2-5.8	4.0-8.0	.28	.28	4	4L	86
		22-33	26-35	1.25-1.35	0.6-2.0	0.17-0.20	4.2-5.8	0.5-1.0	.28	.28			
		33-60	1-6	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.1-0.5	.15	.15			
P7A:													
Comfrey, occasionally flooded----------	80	0-26	28-35	1.20-1.40	0.6-2.0	0.18-0.22	3.2-5.8	4.0-8.0	.28	.28	5	6	48
		26-35	18-35	1.20-1.40	0.6-2.0	0.16-0.20	1.0-5.8	0.5-1.0	.28	.28			
		35-60	18-35	1.30-1.50	0.6-2.0	0.15-0.19	1.0-5.8	0.1-0.5	.28	.28			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
P7A:													
Colo, occasionally flooded----------	5	0-34	27-32	1.28-1.32	0.6-2.0	0.21-0.23	3.2-5.8	4.0-8.0	.28	.28	5	7	38
		34-52	27-35	1.25-1.35	0.6-2.0	0.18-0.20	3.2-5.8	1.0-3.0	.28	.28			
		52-60	25-35	1.25-1.35	0.6-2.0	0.18-0.20	2.6-5.8	0.5-1.0	.28	.28			
Havelock, occasionally flooded----------	5	0-32	27-35	1.40-1.60	0.6-2.0	0.17-0.23	3.2-5.8	4.0-8.0	.28	.28	5	4L	86
		32-60	18-35	1.40-1.60	0.6-2.0	0.17-0.20	1.0-5.8	1.0-3.0	.28	.28			
Havelock, frequently flooded----------	5	0-32	27-35	1.40-1.60	0.6-2.0	0.17-0.23	3.2-5.8	4.0-8.0	.28	.28	5	4L	86
		32-60	18-35	1.40-1.60	0.6-2.0	0.17-0.20	1.0-5.8	1.0-3.0	.28	.28			
Spillco, occasionally flooded----------	5	0-10	18-26	1.45-1.55	0.6-2.0	0.19-0.21	1.0-2.9	4.0-6.0	.24	.24	5	6	48
		10-22	18-26	1.45-1.55	0.6-2.0	0.19-0.21	1.0-2.9	4.0-6.0	.24	.24			
		22-60	18-26	1.45-1.55	0.6-2.0	0.19-0.21	1.0-2.9	1.0-3.0	.24	.24			
P9A:													
Gillett Grove---------	85	0-17	30-35	1.30-1.35	0.6-2.0	0.21-0.23	4.2-7.3	4.0-8.0	.28	.28	5	7	38
		17-44	30-35	1.35-1.40	0.6-2.0	0.18-0.20	4.2-5.8	0.5-1.0	.43	.43			
		44-57	22-30	1.35-1.45	0.6-2.0	0.20-0.22	1.6-4.2	0.1-0.5	.43	.43			
		57-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
McCreath----------	10	0-17	32-35	1.25-1.30	0.6-2.0	0.21-0.23	4.8-5.8	4.0-6.0	.32	.32	5	7	38
		17-35	27-35	1.30-1.35	0.6-2.0	0.18-0.20	3.2-5.8	0.5-1.0	.43	.43			
		35-44	20-30	1.30-1.45	0.6-2.0	0.17-0.20	1.0-4.2	0.1-0.5	.43	.43			
		44-49	12-18	1.50-1.70	2.0-6.0	0.08-0.13	0.0-0.0	0.0-0.5	.24	.24			
		49-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Afton, frequently flooded----------	5	0-32	27-35	1.20-1.30	0.2-0.6	0.19-0.22	3.2-5.8	4.0-8.0	.28	.28	5	7	38
		32-43	25-35	1.20-1.30	0.2-0.6	0.17-0.20	2.6-5.8	0.5-1.0	.43	.43			
		43-80	25-35	1.20-1.40	0.2-0.6	0.17-0.20	2.6-5.8	0.1-0.5	.43	.43			
P12B:													
Everly----------	80	0-10	27-30	1.25-1.45	0.6-2.0	0.17-0.19	3.2-4.2	3.0-6.0	.24	.24	5	7	38
		10-18	25-35	1.25-1.45	0.6-2.0	0.15-0.17	2.6-5.8	0.5-1.0	.32	.32			
		18-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Sac----------	10	0-11	32-35	1.25-1.45	0.6-2.0	0.21-0.23	4.8-5.8	3.0-6.0	.32	.32	5	7	38
		11-28	27-35	1.25-1.45	0.6-2.0	0.18-0.20	3.2-5.8	0.5-1.0	.43	.43			
		28-33	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		33-60	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
P12B:													
Ransom----------	5	0-16	27-35	1.25-1.45	0.6-2.0	0.18-0.22	3.2-5.8	4.0-6.0	.32	.32	5	7	38
		16-33	24-35	1.25-1.45	0.6-2.0	0.16-0.19	3.2-5.8	0.5-1.0	.43	.43			
		33-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Wilmonton----------	5	0-15	27-35	1.25-1.45	0.6-2.0	0.20-0.26	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		15-20	25-32	1.25-1.45	0.6-2.0	0.18-0.24	2.6-4.8	0.5-1.0	.28	.28			
		20-25	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		25-55	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		55-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
P12C2:													
Everly, moderately eroded----------	80	0-7	27-30	1.25-1.45	0.6-2.0	0.17-0.19	3.2-4.2	3.0-6.0	.24	.24	5	7	38
		7-16	25-35	1.25-1.45	0.6-2.0	0.15-0.17	2.6-5.8	0.5-1.0	.32	.32			
		16-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Everly----------	10	0-10	27-30	1.25-1.45	0.6-2.0	0.17-0.19	3.2-4.2	3.0-6.0	.24	.24	5	7	38
		10-18	25-35	1.25-1.45	0.6-2.0	0.15-0.17	2.6-5.8	0.5-1.0	.32	.32			
		18-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Moneta----------	5	0-9	27-32	1.45-1.65	0.2-0.6	0.14-0.18	3.2-4.8	1.0-3.0	.32	.37	5	4L	86
		9-13	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.5-1.0	.32	.37			
		13-53	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		53-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Wilmonton----------	5	0-15	27-35	1.25-1.45	0.6-2.0	0.20-0.26	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		15-20	25-32	1.25-1.45	0.6-2.0	0.18-0.24	2.6-4.8	0.5-1.0	.28	.28			
		20-25	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		25-55	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		55-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
P15B:													
Galva----------	80	0-11	27-35	1.25-1.30	0.6-2.0	0.19-0.22	3.2-5.8	3.0-6.0	.28	.28	5	7	38
		11-31	24-35	1.20-1.30	0.6-2.0	0.17-0.20	2.3-5.8	0.5-1.0	.32	.32			
		31-45	20-30	1.30-1.45	0.6-2.0	0.17-0.20	1.0-4.2	0.1-0.5	.43	.43			
		45-60	18-25	1.30-1.50	0.6-2.0	0.17-0.20	1.0-2.6	0.1-0.5	.43	.43			
Primghar----------	10	0-21	27-35	1.20-1.30	0.6-2.0	0.19-0.22	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		21-42	27-35	1.20-1.35	0.6-2.0	0.17-0.20	3.2-5.8	0.5-1.0	.43	.43			
		42-60	25-35	1.20-1.40	0.6-2.0	0.17-0.20	2.9-5.8	0.1-0.5	.43	.43			
Annieville----------	5	0-11	32-35	1.25-1.30	0.6-2.0	0.21-0.23	4.8-5.8	3.0-6.0	.32	.32	5	7	38
		11-52	27-35	1.30-1.35	0.6-2.0	0.18-0.20	3.2-5.8	0.5-1.0	.43	.43			
		52-57	5-18	1.50-1.70	0.6-2.0	0.08-0.13	0.0-0.0	0.0-0.5	.24	.24			
		57-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
P15B:													
Sac----------	5	0-11	32-35	1.25-1.30	0.6-2.0	0.21-0.23	4.8-5.8	3.0-6.0	.32	.32	5	7	38
		11-28	27-35	1.30-1.35	0.6-2.0	0.18-0.20	3.2-5.8	0.5-1.0	.43	.43			
		28-33	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		33-60	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
P20B:													
Judson----------	80	0-36	20-26	1.25-1.45	0.6-2.0	0.19-0.22	1.0-2.9	4.0-6.0	.28	.28	5	6	48
		36-56	20-32	1.25-1.45	0.6-2.0	0.19-0.22	1.0-4.8	1.0-3.0	.28	.28			
		56-60	20-32	1.25-1.45	0.6-2.0	0.17-0.20	1.0-4.8	0.1-0.5	.43	.43			
Primghar----------	10	0-21	27-35	1.25-1.45	0.6-2.0	0.19-0.22	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		21-42	27-35	1.25-1.45	0.6-2.0	0.17-0.20	3.2-5.8	0.5-1.0	.43	.43			
		42-60	25-35	1.25-1.45	0.6-2.0	0.17-0.20	2.9-5.8	0.1-0.5	.43	.43			
Galva----------	5	0-11	27-35	1.25-1.45	0.6-2.0	0.19-0.22	3.2-5.8	3.0-6.0	.28	.28	5	7	38
		11-31	24-35	1.25-1.45	0.6-2.0	0.17-0.20	2.3-5.8	0.5-1.0	.32	.32			
		31-45	20-30	1.25-1.45	0.6-2.0	0.17-0.20	1.0-4.2	0.1-0.5	.43	.43			
		45-60	18-25	1.25-1.45	0.6-2.0	0.17-0.20	1.0-2.6	0.1-0.5	.43	.43			
Whitewood, overwash---	5	0-48	27-35	1.25-1.45	0.2-0.6	0.19-0.22	3.2-5.8	4.0-8.0	.28	.28	5	7	38
		48-70	25-35	1.25-1.45	0.2-0.6	0.17-0.20	2.6-5.8	0.5-1.0	.43	.43			
		70-80	25-35	1.25-1.45	0.2-0.6	0.17-0.20	2.6-5.8	0.1-0.5	.43	.43			
P21A:													
Marcus----------	80	0-17	30-40	1.30-1.35	0.2-0.6	0.21-0.23	4.2-7.3	4.0-8.0	.28	.28	5	7	38
		17-44	30-35	1.35-1.40	0.2-0.6	0.18-0.20	4.2-5.8	0.5-1.0	.43	.43			
		44-57	22-30	1.35-1.45	0.2-0.6	0.20-0.22	1.6-4.2	0.1-0.5	.43	.43			
		57-60	22-30	1.55-1.65	0.2-0.6	0.17-0.19	1.6-4.2	0.1-0.5	.43	.43			
Whitewood, frequently flooded----------	10	0-25	27-35	1.20-1.30	0.2-0.6	0.19-0.22	3.2-5.8	4.0-8.0	.28	.28	5	7	38
		25-43	25-35	1.20-1.30	0.2-0.6	0.17-0.20	2.6-5.8	0.5-1.0	.43	.43			
		43-60	25-35	1.20-1.40	0.2-0.6	0.17-0.20	2.6-5.8	0.1-0.5	.43	.43			
Primghar----------	5	0-21	27-35	1.20-1.30	0.6-2.0	0.19-0.22	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		21-42	27-35	1.20-1.35	0.6-2.0	0.17-0.20	3.2-5.8	0.5-1.0	.43	.43			
		42-60	25-35	1.20-1.40	0.6-2.0	0.17-0.20	2.9-5.8	0.1-0.5	.43	.43			
Spicer----------	5	0-17	29-35	1.20-1.30	0.6-2.0	0.18-0.24	3.9-5.8	4.0-8.0	.28	.28	5	4L	86
		17-35	18-35	1.25-1.35	0.6-2.0	0.16-0.22	1.0-5.8	0.5-1.0	.37	.37			
		35-60	18-35	1.25-1.35	0.6-2.0	0.16-0.22	1.0-5.8	0.1-0.5	.37	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
P27A:													
Primghar----------	80	0-21	27-35	1.25-1.45	0.6-2.0	0.19-0.22	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		21-42	27-35	1.25-1.45	0.6-2.0	0.17-0.20	3.2-5.8	0.5-1.0	.43	.43			
		42-60	25-35	1.25-1.45	0.6-2.0	0.17-0.20	2.9-5.8	0.1-0.5	.43	.43			
Galva----------	8	0-11	27-35	1.25-1.45	0.6-2.0	0.19-0.22	3.2-5.8	3.0-6.0	.28	.28	5	7	38
		11-31	24-35	1.25-1.45	0.6-2.0	0.17-0.20	2.3-5.8	0.5-1.0	.32	.32			
		31-45	20-30	1.25-1.45	0.6-2.0	0.17-0.20	1.0-4.2	0.1-0.5	.43	.43			
		45-60	18-25	1.25-1.45	0.6-2.0	0.17-0.20	1.0-2.6	0.1-0.5	.43	.43			
Marcus----------	8	0-17	30-40	1.25-1.45	0.2-0.6	0.21-0.23	4.2-7.3	4.0-8.0	.28	.28	5	7	38
		17-44	30-35	1.25-1.45	0.2-0.6	0.18-0.20	4.2-5.8	0.5-1.0	.43	.43			
		44-57	22-30	1.25-1.45	0.2-0.6	0.20-0.22	1.6-4.2	0.1-0.5	.43	.43			
		57-60	22-30	1.55-1.65	0.2-0.6	0.17-0.19	1.6-4.2	0.1-0.5	.43	.43			
Judson----------	4	0-22	27-32	1.25-1.45	0.6-2.0	0.19-0.22	3.2-4.8	4.0-6.0	.28	.28	5	7	38
		22-35	20-32	1.25-1.45	0.6-2.0	0.19-0.22	1.0-4.8	1.0-3.0	.28	.28			
		35-60	20-32	1.25-1.45	0.6-2.0	0.17-0.22	1.0-4.8	0.1-0.5	.43	.43			
P28A:													
Ransom----------	80	0-16	27-35	1.25-1.45	0.6-2.0	0.18-0.22	3.2-5.8	4.0-6.0	.32	.32	5	7	38
		16-33	24-35	1.25-1.45	0.6-2.0	0.16-0.19	3.2-5.8	0.5-1.0	.43	.43			
		33-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Rushmore----------	8	0-18	28-35	1.25-1.45	0.6-2.0	0.18-0.22	3.2-5.8	4.0-8.0	.28	.28	5	7	38
		18-24	28-35	1.25-1.45	0.6-2.0	0.16-0.19	3.2-5.8	0.5-1.0	.37	.37			
		24-32	28-35	1.25-1.45	0.6-2.0	0.16-0.19	3.2-5.8	0.1-0.5	.37	.37			
		32-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Sac----------	8	0-11	32-35	1.25-1.45	0.6-2.0	0.21-0.23	4.8-5.8	3.0-6.0	.32	.32	5	7	38
		11-28	27-35	1.25-1.45	0.6-2.0	0.18-0.20	3.2-5.8	0.5-1.0	.43	.43			
		28-33	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		33-60	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Primghar----------	4	0-21	27-35	1.25-1.45	0.6-2.0	0.19-0.22	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		21-42	27-35	1.25-1.45	0.6-2.0	0.17-0.20	3.2-5.8	0.5-1.0	.43	.43			
		42-60	25-35	1.25-1.45	0.6-2.0	0.17-0.20	2.9-5.8	0.1-0.5	.43	.43			
P29A:													
Rushmore----------	80	0-18	28-35	1.25-1.45	0.6-2.0	0.18-0.22	3.2-5.8	4.0-8.0	.28	.28	5	7	38
		18-24	28-35	1.25-1.45	0.6-2.0	0.16-0.19	3.2-5.8	0.5-1.0	.37	.37			
		24-32	28-35	1.25-1.45	0.6-2.0	0.16-0.19	3.2-5.8	0.1-0.5	.37	.37			
		32-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
P29A:													
Ransom----------	10	0-16	27-35	1.25-1.45	0.6-2.0	0.18-0.22	3.2-5.8	4.0-6.0	.32	.32	5	7	38
		16-33	24-35	1.25-1.45	0.6-2.0	0.16-0.19	3.2-5.8	0.5-1.0	.43	.43			
		33-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Whitewood, frequently flooded----------	10	0-25	27-35	1.25-1.45	0.2-0.6	0.19-0.22	3.2-5.8	4.0-8.0	.28	.28	5	7	38
		25-43	25-35	1.25-1.45	0.2-0.6	0.17-0.20	2.6-5.8	0.5-1.0	.43	.43			
		43-60	25-35	1.25-1.45	0.2-0.6	0.17-0.20	2.6-5.8	0.1-0.5	.43	.43			
P30B:													
Sac----------	80	0-11	32-35	1.25-1.45	0.6-2.0	0.21-0.23	4.8-5.8	3.0-6.0	.32	.32	5	7	38
		11-28	27-35	1.25-1.45	0.6-2.0	0.18-0.20	3.2-5.8	0.5-1.0	.43	.43			
		28-33	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		33-60	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Annieville----------	10	0-11	32-35	1.25-1.45	0.6-2.0	0.21-0.23	4.8-5.8	3.0-6.0	.32	.32	5	7	38
		11-52	26-35	1.25-1.45	0.6-2.0	0.18-0.20	3.2-5.8	0.5-1.0	.43	.43			
		52-57	5-18	1.50-1.70	0.6-2.0	0.08-0.13	0.0-0.0	0.0-0.5	.24	.24			
		57-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Primghar----------	5	0-21	27-35	1.25-1.45	0.6-2.0	0.19-0.22	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		21-42	27-35	1.25-1.45	0.6-2.0	0.17-0.20	3.2-5.8	0.5-1.0	.43	.43			
		42-60	25-35	1.25-1.45	0.6-2.0	0.17-0.20	2.9-5.8	0.1-0.5	.43	.43			
Ransom----------	5	0-16	27-35	1.25-1.45	0.6-2.0	0.18-0.22	3.2-5.8	4.0-6.0	.32	.32	5	7	38
		16-33	24-35	1.25-1.45	0.6-2.0	0.16-0.19	3.2-5.8	0.5-1.0	.43	.43			
		33-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
P31A:													
Spicer----------	85	0-17	29-35	1.20-1.30	0.6-2.0	0.18-0.24	3.9-5.8	4.0-8.0	.28	.28	5	4L	86
		17-35	18-35	1.25-1.35	0.6-2.0	0.16-0.22	1.0-5.8	0.5-1.0	.37	.37			
		35-60	18-35	1.25-1.35	0.6-2.0	0.16-0.22	1.0-5.8	0.1-0.5	.37	.37			
Marcus----------	10	0-17	30-40	1.30-1.35	0.2-0.6	0.21-0.23	4.2-7.3	4.0-8.0	.28	.28	5	7	38
		17-44	30-35	1.35-1.40	0.2-0.6	0.18-0.20	4.2-5.8	0.5-1.0	.43	.43			
		44-57	22-30	1.35-1.45	0.2-0.6	0.20-0.22	1.6-4.2	0.1-0.5	.43	.43			
		57-60	22-30	1.55-1.65	0.2-0.6	0.17-0.19	1.6-4.2	0.1-0.5	.43	.43			
Whitewood----------	5	0-25	27-35	1.20-1.30	0.2-0.6	0.19-0.22	3.2-5.8	4.0-8.0	.28	.28	5	7	38
		25-43	25-35	1.20-1.30	0.2-0.6	0.17-0.20	2.6-5.8	0.5-1.0	.43	.43			
		43-60	25-35	1.20-1.40	0.2-0.6	0.17-0.20	2.6-5.8	0.1-0.5	.43	.43			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
P33A:													
Spillco, occasionally flooded----------	85	0-10	18-26	1.25-1.45	0.6-2.0	0.19-0.21	1.0-2.9	4.0-6.0	.24	.24	5	6	48
		10-22	18-26	1.25-1.45	0.6-2.0	0.19-0.21	1.0-2.9	4.0-6.0	.24	.24			
		22-60	18-26	1.25-1.45	0.6-2.0	0.19-0.21	1.0-2.9	1.0-3.0	.24	.24			
Spillco, frequently flooded----------	10	0-15	18-26	1.25-1.45	0.6-2.0	0.19-0.21	1.0-2.9	4.0-6.0	.24	.24	5	6	48
		15-60	18-26	1.25-1.45	0.6-2.0	0.19-0.21	1.0-2.9	1.0-3.0	.24	.24			
Comfrey, occasionally flooded----------	5	0-26	28-35	1.25-1.45	0.6-2.0	0.18-0.22	3.2-5.8	4.0-8.0	.28	.28	5	6	48
		26-35	18-35	1.25-1.45	0.6-2.0	0.16-0.20	1.0-5.8	0.5-1.0	.28	.28			
		35-60	18-35	1.25-1.45	0.6-2.0	0.15-0.19	1.0-5.8	0.1-0.5	.28	.28			
P36A:													
Talcot, occasionally flooded----------	85	0-22	30-35	1.25-1.45	0.6-2.0	0.18-0.22	4.2-5.8	4.0-8.0	.28	.28	4	4L	86
		22-33	26-35	1.25-1.45	0.6-2.0	0.17-0.20	4.2-5.8	0.5-1.0	.28	.28			
		33-60	1-6	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.1-0.5	.15	.15			
Biscay, occasionally flooded----------	10	0-16	27-32	1.25-1.45	0.6-2.0	0.20-0.22	3.2-4.2	4.0-8.0	.28	.28	4	7	38
		16-21	25-32	1.25-1.45	0.6-2.0	0.17-0.19	1.0-4.2	4.0-6.0	.28	.28			
		21-31	25-32	1.25-1.45	0.6-2.0	0.17-0.19	1.0-4.2	0.5-1.0	.28	.28			
		31-60	1-6	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.1-0.5	.05	.10			
Cylinder, occasionally flooded----------	5	0-18	22-27	1.45-1.60	0.6-2.0	0.20-0.22	1.6-3.2	4.0-6.0	.24	.24	4	6	48
		18-28	22-30	1.45-1.60	0.6-2.0	0.17-0.19	1.6-4.2	0.5-1.0	.24	.24			
		28-39	2-12	1.60-1.70	20-40	0.02-0.04	0.0-0.5	0.0-0.5	.10	.15			
		39-60	2-12	1.60-1.70	20-40	0.02-0.04	0.0-0.5	0.0-0.5	.10	.15			
P37D:													
Talmo----------	90	0-9	5-15	1.35-1.45	2.0-6.0	0.10-0.12	0.0-0.0	1.0-3.0	.10	.20	3	8	0
		9-12	2-8	1.50-1.65	6.0-20	0.02-0.04	0.0-0.0	0.5-1.0	.10	.17			
		12-60	0-5	1.50-1.65	6.0-20	0.02-0.04	0.0-0.0	0.1-0.5	.10	.17			
Kanaranzi----------	5	0-7	18-27	1.25-1.40	0.6-2.0	0.22-0.24	1.0-3.2	3.0-6.0	.32	.32	4	6	48
		7-20	18-30	1.30-1.45	0.6-2.0	0.20-0.22	1.0-4.2	1.0-2.0	.43	.43			
		20-80	0-5	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			
Thurman----------	5	0-10	6-18	1.30-1.40	2.0-6.0	0.13-0.15	0.0-1.0	2.0-4.0	.20	.20	3	3	86
		10-20	6-18	1.35-1.50	2.0-6.0	0.12-0.14	0.0-1.0	0.5-1.0	.20	.20			
		20-60	1-10	1.50-1.60	6.0-20	0.02-0.07	0.0-0.0	0.1-0.5	.15	.15			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
P38B:													
Thurman----------	90	0-13	6-18	1.30-1.40	2.0-6.0	0.13-0.15	0.0-1.0	2.0-4.0	.20	.20	3	3	86
		13-18	6-18	1.35-1.50	2.0-6.0	0.12-0.14	0.0-1.0	0.5-1.0	.20	.20			
		18-60	1-10	1.50-1.60	6.0-20	0.02-0.07	0.0-0.0	0.1-0.5	.15	.15			
Henkin----------	10	0-5	20-26	1.25-1.45	2.0-6.0	0.20-0.22	1.0-2.9	3.0-6.0	.28	.28	4	6	48
		5-21	18-26	1.25-1.45	2.0-6.0	0.16-0.22	1.0-4.2	0.5-1.0	.32	.32			
		21-48	3-10	1.50-1.70	6.0-20	0.06-0.10	0.0-0.0	0.0-0.5	.17	.17			
		48-60	3-10	1.50-1.70	6.0-20	0.06-0.10	0.0-0.0	0.0-0.5	.17	.17			
P38C:													
Thurman----------	90	0-10	6-18	1.30-1.40	2.0-6.0	0.13-0.15	0.0-1.0	2.0-4.0	.20	.20	3	3	86
		10-20	6-18	1.35-1.50	2.0-6.0	0.12-0.14	0.0-1.0	0.5-1.0	.20	.20			
		20-60	1-10	1.50-1.60	6.0-20	0.02-0.07	0.0-0.0	0.1-0.5	.15	.15			
Henkin----------	10	0-5	20-26	1.20-1.30	2.0-6.0	0.20-0.22	1.0-2.9	3.0-6.0	.28	.28	4	6	48
		5-21	18-26	1.20-1.35	2.0-6.0	0.16-0.22	1.0-4.2	0.5-1.0	.32	.32			
		21-48	3-10	1.50-1.70	6.0-20	0.06-0.10	0.0-0.0	0.0-0.5	.17	.17			
		48-60	3-10	1.50-1.70	6.0-20	0.06-0.10	0.0-0.0	0.0-0.5	.17	.17			
P43A:													
Wilmonton----------	85	0-15	27-35	1.25-1.35	0.6-2.0	0.20-0.26	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		15-20	25-32	1.25-1.35	0.6-2.0	0.18-0.24	2.6-4.8	0.5-1.0	.28	.28			
		20-25	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		25-55	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		55-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Everly----------	5	0-10	27-30	1.40-1.45	0.6-2.0	0.17-0.19	3.2-4.2	3.0-6.0	.24	.24	5	6	48
		10-18	25-35	1.45-1.55	0.6-2.0	0.15-0.17	2.6-5.8	0.5-1.0	.32	.32			
		18-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Ransom----------	5	0-16	27-35	1.20-1.30	0.6-2.0	0.18-0.22	3.2-5.8	4.0-6.0	.32	.32	5	7	38
		16-33	24-35	1.25-1.35	0.6-2.0	0.16-0.19	3.2-5.8	0.5-1.0	.43	.43			
		33-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Rushmore----------	5	0-18	28-35	1.20-1.30	0.6-2.0	0.18-0.22	3.2-5.8	4.0-8.0	.28	.28	5	7	38
		18-24	28-35	1.25-1.35	0.6-2.0	0.16-0.19	3.2-5.8	0.5-1.0	.37	.37			
		24-32	28-35	1.25-1.35	0.6-2.0	0.16-0.19	3.2-5.8	0.1-0.5	.37	.37			
		32-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
P45E:													
Moneta----------	85	0-9	27-32	1.45-1.65	0.2-0.6	0.14-0.18	3.2-4.8	1.0-3.0	.32	.37	5	4L	86
		9-13	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.5-1.0	.32	.37			
		13-53	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		53-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
P45E:													
Judson----------	10	0-36	20-26	1.20-1.35	0.6-2.0	0.19-0.22	1.0-2.9	4.0-6.0	.28	.28	5	6	48
		36-56	20-32	1.20-1.35	0.6-2.0	0.19-0.22	1.0-4.8	1.0-3.0	.28	.28			
		56-60	20-32	1.30-1.45	0.6-2.0	0.17-0.20	1.0-4.8	0.1-0.5	.43	.43			
Soils that are moderately deep to carbonates----------	5	0-9	27-32	1.45-1.65	0.2-0.6	0.14-0.18	3.2-4.8	1.0-3.0	.32	.37	5	6	48
		9-20	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.5-1.0	.32	.37			
		20-53	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		53-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
P48A:													
Allendorf----------	85	0-14	27-35	1.25-1.45	0.6-2.0	0.19-0.22	3.2-5.8	3.0-6.0	.28	.28	4	7	38
		14-34	24-35	1.25-1.45	0.6-2.0	0.17-0.20	2.3-5.8	0.5-1.0	.32	.32			
		34-60	0-5	1.55-1.65	20-40	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			
Kanaranzi----------	5	0-7	18-27	1.25-1.45	0.6-2.0	0.22-0.24	1.0-3.2	3.0-6.0	.32	.32	4	6	48
		7-20	18-30	1.30-1.45	0.6-2.0	0.20-0.22	1.0-4.2	1.0-2.0	.43	.43			
		20-80	0-5	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			
Moderately well drained soils--------	5	0-13	27-35	1.25-1.45	0.6-2.0	0.19-0.22	3.2-5.8	3.0-6.0	.28	.28	4	7	48
		13-34	24-35	1.25-1.45	0.6-2.0	0.17-0.20	2.3-5.8	0.5-1.0	.32	.32			
		34-60	0-5	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			
Sac----------	5	0-11	32-35	1.25-1.45	0.6-2.0	0.21-0.23	4.8-5.8	3.0-6.0	.32	.32	5	7	38
		11-28	27-35	1.25-1.45	0.6-2.0	0.18-0.20	3.2-5.8	0.5-1.0	.43	.43			
		28-33	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		33-60	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
P48B:													
Allendorf----------	85	0-13	27-35	1.25-1.45	0.6-2.0	0.19-0.22	3.2-5.8	3.0-6.0	.28	.28	4	7	38
		13-34	24-35	1.25-1.45	0.6-2.0	0.17-0.20	2.3-5.8	0.5-1.0	.32	.32			
		34-60	0-5	1.55-1.65	20-40	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			
Kanaranzi----------	5	0-7	18-27	1.25-1.45	0.6-2.0	0.22-0.24	1.0-3.2	3.0-6.0	.32	.32	4	6	48
		7-20	18-30	1.30-1.45	0.6-2.0	0.20-0.22	1.0-4.2	1.0-2.0	.43	.43			
		20-80	0-5	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			
Moderately well drained soils--------	5	0-13	27-35	1.25-1.45	0.6-2.0	0.19-0.22	3.2-5.8	3.0-6.0	.28	.28	4	7	38
		13-34	24-35	1.25-1.45	0.6-2.0	0.17-0.20	2.3-5.8	0.5-1.0	.32	.32			
		34-60	0-5	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
P48B:													
Sac----------	5	0-11	32-35	1.25-1.45	0.6-2.0	0.21-0.23	4.8-5.8	3.0-6.0	.32	.32	5	7	38
		11-28	27-35	1.25-1.45	0.6-2.0	0.18-0.20	3.2-5.8	0.5-1.0	.43	.43			
		28-33	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		33-60	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
P49A:													
Comfrey, frequently flooded----------	85	0-40	28-35	1.20-1.40	0.6-2.0	0.18-0.22	3.2-5.8	4.0-8.0	.28	.28	5	6	48
		40-60	18-35	1.30-1.50	0.6-2.0	0.15-0.19	1.0-5.8	0.1-0.5	.28	.28			
Comfrey, occasionally flooded----------	5	0-26	28-35	1.20-1.40	0.6-2.0	0.18-0.22	3.2-5.8	4.0-8.0	.28	.28	5	6	48
		26-35	18-35	1.20-1.40	0.6-2.0	0.16-0.20	1.0-5.8	0.5-1.0	.28	.28			
		35-60	18-35	1.30-1.50	0.6-2.0	0.15-0.19	1.0-5.8	0.1-0.5	.28	.28			
Havelock, frequently flooded----------	5	0-32	27-35	1.40-1.60	0.6-2.0	0.17-0.23	3.2-5.8	4.0-8.0	.28	.28	5	4L	86
		32-60	18-35	1.40-1.60	0.6-2.0	0.17-0.20	1.0-5.8	1.0-3.0	.28	.28			
Spillco, occasionally flooded----------	5	0-10	18-26	1.45-1.55	0.6-2.0	0.19-0.21	1.0-2.9	4.0-6.0	.24	.24	5	6	48
		10-22	18-26	1.45-1.55	0.6-2.0	0.19-0.21	1.0-2.9	4.0-6.0	.24	.24			
		22-60	18-26	1.45-1.55	0.6-2.0	0.19-0.21	1.0-2.9	1.0-3.0	.24	.24			
P50B:													
Everly----------	60	0-15	27-30	1.40-1.45	0.6-2.0	0.17-0.19	3.2-4.2	3.0-6.0	.24	.24	5	6	48
		15-26	25-35	1.45-1.55	0.6-2.0	0.15-0.17	2.6-5.8	0.5-1.0	.32	.32			
		26-44	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.5-1.0	.32	.37			
		44-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Kanaranzi----------	25	0-10	18-27	1.25-1.40	0.6-2.0	0.22-0.24	1.0-3.2	3.0-6.0	.32	.32	4	6	48
		10-16	18-30	1.30-1.45	0.6-2.0	0.20-0.22	1.0-4.2	1.0-2.0	.43	.43			
		16-80	0-5	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			
Wilmonton----------	10	0-15	27-35	1.25-1.35	0.6-2.0	0.20-0.26	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		15-20	25-32	1.25-1.35	0.6-2.0	0.18-0.24	2.6-4.8	0.5-1.0	.28	.28			
		20-25	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		25-55	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		55-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Ransom----------	5	0-16	27-35	1.20-1.30	0.6-2.0	0.18-0.22	3.2-5.8	4.0-6.0	.32	.32	5	7	38
		16-33	24-35	1.25-1.35	0.6-2.0	0.16-0.19	3.2-5.8	0.5-1.0	.43	.43			
		33-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
P51C2:													
Everly, moderately eroded----------	40	0-8	27-30	1.40-1.45	0.6-2.0	0.17-0.19	3.2-4.2	3.0-6.0	.24	.24	5	6	48
		8-26	25-35	1.45-1.55	0.6-2.0	0.15-0.17	2.6-5.8	0.5-1.0	.32	.32			
		26-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Moneta, moderately eroded----------	20	0-8	27-32	1.45-1.65	0.2-0.6	0.14-0.18	3.2-4.8	1.0-3.0	.32	.37	5	4L	86
		8-38	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		38-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Talmo, moderately eroded----------	20	0-6	5-15	1.35-1.45	2.0-6.0	0.10-0.12	0.0-0.0	1.0-3.0	.10	.20	3	8	0
		6-60	0-5	1.50-1.65	6.0-20	0.02-0.04	0.0-0.0	0.1-0.5	.10	.17			
Everly----------	10	0-10	27-30	1.40-1.45	0.6-2.0	0.17-0.19	3.2-4.2	3.0-6.0	.24	.24	5	6	48
		10-18	25-35	1.45-1.55	0.6-2.0	0.15-0.17	2.6-5.8	0.5-1.0	.32	.32			
		18-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Kanaranzi----------	5	0-7	18-27	1.25-1.40	0.6-2.0	0.22-0.24	1.0-3.2	3.0-6.0	.32	.32	4	6	48
		7-20	18-30	1.30-1.45	0.6-2.0	0.20-0.22	1.0-4.2	1.0-2.0	.43	.43			
		20-80	0-5	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			
Wilmonton----------	5	0-15	27-35	1.25-1.35	0.6-2.0	0.20-0.26	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		15-20	25-32	1.25-1.35	0.6-2.0	0.18-0.24	2.6-4.8	0.5-1.0	.28	.28			
		20-25	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		25-55	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		55-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
P52D2:													
Moneta, moderately eroded----------	40	0-7	27-32	1.45-1.65	0.2-0.6	0.14-0.18	3.2-4.8	1.0-3.0	.32	.37	3	4L	86
		7-30	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		30-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Everly, moderately eroded----------	20	0-8	27-30	1.40-1.45	0.6-2.0	0.17-0.19	3.2-4.2	3.0-6.0	.24	.24	5	6	48
		8-16	25-35	1.45-1.55	0.6-2.0	0.15-0.17	2.6-5.8	0.5-1.0	.32	.32			
		16-38	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		38-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Talmo, moderately eroded----------	20	0-8	5-15	1.35-1.45	2.0-6.0	0.10-0.12	0.0-0.0	1.0-3.0	.10	.20	5	8	0
		8-60	0-5	1.50-1.65	6.0-20	0.02-0.04	0.0-0.0	0.1-0.5	.10	.17			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
P52D2:													
Everly----------	10	0-10	27-30	1.40-1.45	0.6-2.0	0.17-0.19	3.2-4.2	3.0-6.0	.24	.24	5	6	48
		10-18	25-35	1.45-1.55	0.6-2.0	0.15-0.17	2.6-5.8	0.5-1.0	.32	.32			
		18-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Kanaranzi----------	5	0-7	18-27	1.25-1.40	0.6-2.0	0.22-0.24	1.0-3.2	3.0-6.0	.32	.32	4	6	48
		7-20	18-30	1.30-1.45	0.6-2.0	0.20-0.22	1.0-4.2	1.0-2.0	.43	.43			
		20-80	0-5	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			
Wilmonton----------	5	0-15	27-35	1.25-1.35	0.6-2.0	0.20-0.26	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		15-20	25-32	1.25-1.35	0.6-2.0	0.18-0.24	2.6-4.8	0.5-1.0	.28	.28			
		20-25	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		25-55	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		55-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
P53C2:													
Everly, moderately eroded----------	55	0-10	27-30	1.40-1.45	0.6-2.0	0.17-0.19	3.2-4.2	3.0-6.0	.24	.24	5	6	48
		10-20	25-35	1.45-1.55	0.6-2.0	0.15-0.17	2.6-5.8	0.5-1.0	.32	.32			
		20-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Moneta, moderately eroded----------	25	0-7	27-32	1.45-1.65	0.2-0.6	0.14-0.18	3.2-4.8	1.0-3.0	.32	.37	5	4L	86
		7-33	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		33-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Everly----------	10	0-10	27-30	1.40-1.45	0.6-2.0	0.17-0.19	3.2-4.2	3.0-6.0	.24	.24	5	6	48
		10-18	25-35	1.45-1.55	0.6-2.0	0.15-0.17	2.6-5.8	0.5-1.0	.32	.32			
		18-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Wilmonton----------	10	0-15	27-35	1.25-1.35	0.6-2.0	0.20-0.26	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		15-20	25-32	1.25-1.35	0.6-2.0	0.18-0.24	2.6-4.8	0.5-1.0	.28	.28			
		20-25	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		25-55	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		55-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
P54D2:													
Moneta, moderately eroded----------	45	0-9	27-32	1.45-1.65	0.2-0.6	0.14-0.18	3.2-4.8	1.0-3.0	.32	.37	5	4L	86
		9-13	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.5-1.0	.32	.37			
		13-53	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		53-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
P54D2:													
Everly, moderately eroded----------	40	0-10	27-30	1.40-1.45	0.6-2.0	0.17-0.19	3.2-4.2	3.0-6.0	.24	.24	5	6	48
		10-15	25-35	1.45-1.55	0.6-2.0	0.15-0.17	2.6-5.8	0.5-1.0	.32	.32			
		15-44	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		44-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Everly----------	10	0-10	27-30	1.40-1.45	0.6-2.0	0.17-0.19	3.2-4.2	3.0-6.0	.24	.24	5	6	48
		10-18	25-35	1.45-1.55	0.6-2.0	0.15-0.17	2.6-5.8	0.5-1.0	.32	.32			
		18-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
Wilmonton----------	5	0-15	27-35	1.25-1.35	0.6-2.0	0.20-0.26	3.2-5.8	4.0-6.0	.28	.28	5	7	38
		15-20	25-32	1.25-1.35	0.6-2.0	0.18-0.24	2.6-4.8	0.5-1.0	.28	.28			
		20-25	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		25-55	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
		55-80	22-32	1.45-1.65	0.2-0.6	0.14-0.18	1.6-4.8	0.1-0.5	.32	.37			
P55A:													
Kato----------	90	0-21	27-32	1.20-1.30	0.6-2.0	0.20-0.22	3.2-4.8	4.0-8.0	.28	.28	4	7	38
		21-31	26-32	1.20-1.30	0.6-2.0	0.20-0.22	3.2-4.8	0.5-1.0	.28	.28			
		31-35	6-18	1.35-1.50	6.0-20	0.12-0.14	0.0-1.0	0.1-0.5	.20	.20			
		35-60	1-6	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.1-0.5	.05	.10			
Somewhat poorly drained soils--------	10	0-21	27-32	1.20-1.30	0.6-2.0	0.20-0.22	3.2-4.8	4.0-6.0	.28	.28	4	7	38
		21-31	26-32	1.20-1.30	0.6-2.0	0.20-0.22	3.2-4.8	0.5-1.0	.28	.28			
		31-35	6-18	1.35-1.50	2.0-6.0	0.12-0.14	0.0-1.0	0.1-0.5	.20	.20			
		35-60	1-6	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.1-0.5	.05	.10			
P56A:													
Kanaranzi----------	80	0-7	18-27	1.25-1.40	0.6-2.0	0.22-0.24	1.0-3.2	3.0-6.0	.32	.32	4	6	48
		7-20	18-30	1.30-1.45	0.6-2.0	0.20-0.22	1.0-4.2	1.0-2.0	.43	.43			
		20-80	0-5	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			
Allendorf----------	10	0-14	27-35	1.25-1.30	0.6-2.0	0.19-0.22	3.2-5.8	3.0-6.0	.28	.28	4	6	48
		14-34	24-35	1.20-1.30	0.6-2.0	0.17-0.20	2.3-5.8	0.5-1.0	.32	.32			
		34-60	0-5	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			
Moderately well drained soils--------	10	0-7	18-27	1.25-1.40	0.6-2.0	0.22-0.24	1.0-3.2	3.0-6.0	.32	.32	4	6	48
		7-20	18-30	1.30-1.45	0.6-2.0	0.20-0.22	1.0-4.2	1.0-2.0	.43	.43			
		20-80	0-5	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
P56B:													
Kanaranzi----------	80	0-7	18-27	1.25-1.45	0.6-2.0	0.22-0.24	1.0-3.2	3.0-6.0	.32	.32	4	6	48
		7-20	18-30	1.30-1.45	0.6-2.0	0.20-0.22	1.0-4.2	1.0-2.0	.43	.43			
		20-80	0-5	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			
Allendorf----------	14	0-13	27-35	1.25-1.45	0.6-2.0	0.19-0.22	3.2-5.8	3.0-6.0	.28	.28	4	6	48
		13-34	24-35	1.25-1.45	0.6-2.0	0.17-0.20	2.3-5.8	0.5-1.0	.32	.32			
		34-60	0-5	1.55-1.65	6.0-20	0.02-0.04	0.0-0.0	0.0-0.5	.10	.17			
Talmo----------	6	0-7	5-15	1.35-1.45	2.0-6.0	0.10-0.12	0.0-0.0	1.0-3.0	.10	.20	3	8	0
		7-10	2-8	1.50-1.65	6.0-20	0.02-0.04	0.0-0.0	0.5-1.0	.10	.17			
		10-60	0-5	1.50-1.65	6.0-20	0.02-0.04	0.0-0.0	0.1-0.5	.10	.17			
U3B.													
Udorthents (cut and fill land)													
U7.													
Udorthents, shallow, sanitary landfill													
U15A:													
Havelock, frequently flooded----------	80	0-32	27-35	1.40-1.60	0.6-2.0	0.17-0.23	3.2-5.8	4.0-8.0	.28	.28	5	4L	86
		32-60	18-35	1.40-1.60	0.6-2.0	0.17-0.20	1.0-5.8	1.0-3.0	.28	.28			
Havelock, occasionally flooded----------	10	0-32	27-35	1.40-1.60	0.6-2.0	0.17-0.23	3.2-5.8	4.0-8.0	.28	.28	5	4L	86
		32-60	18-35	1.40-1.60	0.6-2.0	0.17-0.20	1.0-5.8	1.0-3.0	.28	.28			
Calco, frequently flooded----------	5	0-36	27-35	1.25-1.30	0.6-2.0	0.21-0.23	3.2-5.8	4.0-8.0	.28	.28	5	4L	86
		36-60	27-35	1.25-1.30	0.6-2.0	0.21-0.23	3.2-5.8	1.0-3.0	.28	.28			
Spillco, frequently flooded----------	5	0-15	18-26	1.45-1.55	0.6-2.0	0.19-0.21	1.0-2.9	4.0-6.0	.24	.24	5	6	48
		15-60	18-26	1.45-1.55	0.6-2.0	0.19-0.21	1.0-2.9	1.0-3.0	.24	.24			
U24A:													
Havelock, occasionally flooded----------	80	0-32	27-35	1.40-1.60	0.6-2.0	0.17-0.23	3.2-5.8	4.0-8.0	.28	.28	5	4L	86
		32-60	18-35	1.40-1.60	0.6-2.0	0.17-0.20	1.0-5.8	1.0-3.0	.28	.28			
Havelock, frequently flooded----------	10	0-32	27-35	1.40-1.60	0.6-2.0	0.17-0.23	3.2-5.8	4.0-8.0	.28	.28	5	4L	86
		32-60	18-35	1.40-1.60	0.6-2.0	0.17-0.20	1.0-5.8	1.0-3.0	.28	.28			

Table 17.--Physical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Clay	Moist bulk density	Permea-bility	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
U24A:													
Spillco, occasionally flooded----------	5	0-10	18-26	1.45-1.55	0.6-2.0	0.19-0.21	1.0-2.9	4.0-6.0	.24	.24	5	6	48
		10-22	18-26	1.45-1.55	0.6-2.0	0.19-0.21	1.0-2.9	4.0-6.0	.24	.24			
		22-60	18-26	1.45-1.55	0.6-2.0	0.19-0.21	1.0-2.9	1.0-3.0	.24	.24			
Comfrey, occasionally flooded----------	3	0-26	28-35	1.20-1.40	0.6-2.0	0.18-0.22	3.2-5.8	4.0-8.0	.28	.28	5	6	48
		26-35	18-35	1.20-1.40	0.6-2.0	0.16-0.20	1.0-5.8	0.5-1.0	.28	.28			
		35-60	18-35	1.30-1.50	0.6-2.0	0.15-0.19	1.0-5.8	0.1-0.5	.28	.28			
Calco, occasionally flooded----------	2	0-36	27-35	1.25-1.30	0.6-2.0	0.21-0.23	3.2-5.8	4.0-8.0	.28	.28	5	4L	86
		36-44	27-35	1.25-1.30	0.6-2.0	0.21-0.23	3.2-5.8	1.0-3.0	.28	.28			
		44-60	27-35	1.25-1.30	0.6-2.0	0.21-0.23	3.2-5.8	0.5-1.0	.28	.28			
W. Water													

Table 18.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
GP:						
Pits, gravel.						
Udipsamments.						
L5A:						
Delft, overwash------	45	0-12	13-18	5.6-7.8	0	0
		12-37	14-23	5.6-7.8	0	0
		37-47	10-18	6.6-7.8	0	0
		47-80	10-20	7.4-8.4	10-20	0-1
Delft----------	35	0-37	16-25	5.6-7.8	0	0
		37-50	10-28	6.6-7.8	0	0
		50-60	10-20	7.4-8.4	10-20	0-1
Delft, frequently flooded----------	7	0-8	24-34	6.1-7.3	0	0
		8-26	14-28	6.1-7.3	0	0
		26-40	12-20	6.6-7.3	0	0
		40-80	10-20	7.4-8.4	10-20	0-1
Terril----------	6	0-27	20-25	6.1-7.3	0	0
		27-40	20-25	6.1-7.3	0	0
		40-63	15-25	6.1-7.3	0	0
		63-80	10-20	7.4-8.4	10-20	0-1
Glencoe, depressional	4	0-10	23-37	6.1-7.8	0-5	0
		10-35	16-27	6.1-7.8	0-5	0
		35-48	14-25	6.6-7.8	0-5	0
		48-60	10-20	7.4-8.4	10-20	0-1
Poorly drained soils	3	0-32	19-30	6.1-7.3	0	0
		32-43	15-25	6.6-7.8	0	0
		43-80	10-20	7.4-8.4	10-20	0-1
L6A:						
Biscay----------	85	0-20	20-35	6.1-7.8	0-15	0
		20-28	12-25	6.6-7.8	0-15	0
		28-36	5.0-20	6.6-7.8	0-15	0
		36-60	1.0-5.0	7.4-8.4	5-30	0
Biscay, depressional	8	0-23	20-35	6.1-7.8	0-15	0
		23-28	12-25	6.6-7.8	0-15	0
		28-36	5.0-20	6.6-7.8	0-15	0
		36-60	1.0-5.0	7.4-8.4	5-30	0
Mayer----------	5	0-18	15-31	7.4-8.4	5-30	0
		18-33	13-27	7.4-8.4	5-30	0
		33-80	1.0-10	7.4-8.4	5-30	0
Cylinder----------	2	0-14	20-25	5.6-7.3	0	0
		14-18	20-25	6.1-7.3	0	0
		18-28	20-25	6.1-7.3	0	0
		28-80	5.0-10	6.6-8.4	0-25	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L78A:						
Canisteo----------	65	0-18	19-37	7.4-8.4	5-15	0
		18-39	10-20	7.4-8.4	15-25	0-1
		39-80	10-20	7.4-8.4	10-20	0-1
Crippin----------	10	0-15	20-25	6.6-8.4	0-25	0
		15-27	20-25	7.4-8.4	5-30	0
		27-60	10-20	7.4-8.4	10-20	0-1
Glencoe, depressional	10	0-10	23-37	6.1-7.8	0-5	0
		10-35	16-27	6.1-7.8	0-5	0
		35-48	14-25	6.6-7.8	0-5	0
		48-60	10-20	7.4-8.4	10-20	0-1
Canisteo, depressional--------	5	0-17	19-37	7.4-8.4	5-15	0
		17-30	12-29	7.4-8.4	12-18	0
		30-60	10-20	7.4-8.4	10-20	0-1
Harps----------	5	0-13	20-30	7.9-8.4	20-40	0
		13-30	10-20	7.4-8.4	15-25	0-1
		30-60	10-20	7.4-8.4	10-20	0-1
Webster----------	5	0-19	22-32	6.6-7.3	0	0
		19-26	15-25	6.6-7.8	0-10	0
		26-60	10-20	7.4-8.4	10-20	0-1
L79B:						
Clarion----------	70	0-14	20-25	5.6-7.3	0	0
		14-33	20-25	5.6-7.3	0-15	0
		33-60	10-20	7.4-8.4	15-25	0-1
Clarion, moderately eroded----------	15	0-10	20-25	5.6-7.3	0	0
		10-38	20-25	5.6-7.3	0-15	0
		38-60	10-20	7.4-8.4	15-25	0-1
Nicollet----------	8	0-17	25-40	5.6-7.3	0	0
		17-33	15-25	5.6-7.3	0	0
		33-36	15-25	7.4-8.4	0-15	0
		36-60	10-20	7.4-8.4	10-20	0-1
Ocheyedan----------	5	0-10	20-25	5.6-7.3	0	0
		10-30	20-25	6.1-7.8	0-15	0
		30-60	20-25	6.6-8.4	0-30	0
Webster----------	2	0-19	22-32	6.6-7.3	0	0
		19-26	15-25	6.6-7.8	0-10	0
		26-60	10-20	7.4-8.4	10-20	0-1
L83A:						
Webster----------	65	0-19	22-32	6.6-7.3	0	0
		19-26	15-25	6.6-7.8	0-10	0
		26-60	10-20	7.4-8.4	10-20	0-1
Glencoe, depressional	14	0-10	23-37	6.1-7.8	0-5	0
		10-35	16-27	6.1-7.8	0-5	0
		35-48	14-25	6.6-7.8	0-5	0
		48-60	10-20	7.4-8.4	10-20	0-1

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L83A:						
Canisteo----------	8	0-18	19-37	7.4-8.4	5-15	0
		18-39	6.0-23	7.4-8.4	10-15	0
		39-80	10-20	7.4-8.4	15-25	0-1
Nicollet----------	8	0-17	25-40	5.6-7.3	0	0
		17-33	15-25	5.6-7.3	0	0
		33-36	15-25	7.4-8.4	0-15	0
		36-60	10-20	7.4-8.4	10-20	0-1
Poorly drained soils	5	0-22	22-32	6.6-7.3	0	0
		22-30	15-25	6.6-7.8	0-10	0
		30-57	0.0-5.0	6.6-8.4	0-15	0
		57-80	10-20	7.4-8.4	10-20	0-1
L85A:						
Nicollet----------	85	0-17	25-40	5.6-7.3	0	0
		17-33	15-25	5.6-7.3	0	0
		33-36	15-25	7.4-8.4	0-15	0
		36-60	10-20	7.4-8.4	10-20	0-1
Clarion----------	10	0-14	20-25	5.6-7.3	0	0
		14-33	20-25	5.6-7.3	0-15	0
		33-60	10-20	7.4-8.4	15-25	0-1
Webster----------	5	0-19	22-32	6.6-7.3	0	0
		19-26	15-25	6.6-7.8	0-10	0
		26-60	10-20	7.4-8.4	10-20	0-1
L88A:						
Lura, depressional---	85	0-10	35-70	6.1-7.8	0-5	0
		10-58	29-54	6.1-7.3	0	0
		58-72	17-47	6.6-7.8	10-20	0
Brownton----------	7	0-22	21-28	7.4-8.4	10-20	0
		22-38	18-31	7.4-8.4	10-25	0
		38-60	10-20	7.4-8.4	10-20	0-1
Depressional soils that have an organic surface layer-------	5	0-10	50-150	5.6-7.8	0-5	0
		10-26	35-65	6.1-7.8	0-5	0
		26-48	20-40	6.1-7.8	0-5	0
		48-80	17-47	6.6-7.8	10-20	0
Prinsburg----------	3	0-19	22-35	7.4-8.4	5-25	0
		19-29	14-28	7.4-8.4	5-25	0
		29-46	10-20	7.4-8.4	5-25	0
		46-60	10-20	7.4-8.4	10-20	0-1
L96B:						
Estherville----------	55	0-13	2.0-20	5.6-7.3	0	0
		13-18	4.0-20	5.6-7.3	0	0
		18-23	0.0-5.0	5.6-7.3	0	0
		23-60	0.0-5.0	6.6-8.4	0-15	0
Hawick----------	35	0-7	1.0-10	6.1-7.8	0-10	0
		7-80	1.0-5.0	7.4-8.4	5-15	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L96B:						
Biscay----------	2	0-20	20-35	6.1-7.8	0-15	0
		20-28	12-25	6.6-7.8	0-15	0
		28-36	5.0-20	6.6-7.8	0-15	0
		36-60	1.0-5.0	7.4-8.4	5-30	0
Tomall----------	8	0-33	17-32	6.1-7.3	0	0
		33-42	11-21	6.1-7.3	0	0
		42-47	1.0-5.0	6.1-7.3	0	0
		47-80	1.0-5.0	7.4-7.8	1-5	0-1
L97C:						
Hawick----------	60	0-7	1.0-10	6.1-7.8	0-10	0
		7-80	1.0-5.0	7.4-8.4	5-15	0
Estherville----------	30	0-13	2.0-20	5.6-7.3	0	0
		13-18	4.0-20	5.6-7.3	0	0
		18-23	0.0-5.0	5.6-7.3	0	0
		23-60	0.0-5.0	6.6-8.4	0-15	0
Tomall----------	10	0-33	17-32	6.1-7.3	0	0
		33-42	11-21	6.1-7.3	0	0
		42-47	1.0-5.0	6.1-7.3	0	0
		47-80	1.0-5.0	7.4-7.8	1-5	0-1
L98A:						
Crippin----------	50	0-15	20-25	6.6-8.4	0-25	0
		15-27	20-25	7.4-8.4	5-30	0
		27-60	10-20	7.4-8.4	10-20	0-1
Nicollet----------	40	0-17	25-40	5.6-7.3	0	0
		17-33	15-25	5.6-7.3	0	0
		33-36	15-25	7.4-8.4	0-15	0
		36-60	10-20	7.4-8.4	10-20	0-1
Canisteo----------	5	0-18	19-37	7.4-8.4	5-15	0
		18-39	10-20	7.4-8.4	15-25	0-1
		39-80	10-20	7.4-8.4	10-20	0-1
Clarion----------	5	0-14	20-25	5.6-7.3	0	0
		14-33	20-25	5.6-7.3	0-15	0
		33-60	10-20	7.4-8.4	15-25	0-1
L102C2:						
Omsrud, moderately eroded----------	45	0-9	14-35	5.6-7.3	0	0
		9-19	9.0-22	5.6-7.3	0	0
		19-36	10-20	7.4-8.4	15-25	0-1
		36-80	10-20	7.4-8.4	10-20	0-1
Storden, moderately eroded----------	24	0-7	11-18	7.4-8.4	5-30	0
		7-55	10-20	7.4-8.4	15-25	0-1
		55-80	10-20	7.4-8.4	10-20	0-1
Omsrud----------	14	0-12	14-35	5.6-7.3	0	0
		12-16	9.0-22	5.6-7.3	0	0
		16-32	10-20	7.4-8.4	15-25	0-1
		32-60	10-20	7.4-8.4	10-20	0-1

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L102C2:						
Terril----------	10	0-27	20-25	6.1-7.3	0	0
		27-40	20-25	6.1-7.3	0	0
		40-63	15-25	6.1-7.3	0	0
		63-80	10-20	7.4-8.4	10-20	0-1
Delft----------	5	0-37	16-25	5.6-7.8	0	0
		37-50	10-18	6.6-7.8	0	0
		50-60	10-20	7.4-8.4	10-20	0-1
Crooksford----------	2	0-10	15-32	6.1-7.3	0	0
		10-20	15-32	6.1-7.3	0	0
		20-26	8.0-20	6.6-7.8	0-10	0
		26-34	20-25	5.6-7.3	0-15	0
		34-80	8.0-20	7.4-8.4	15-25	0
L102D2:						
Omsrud, moderately eroded----------	45	0-9	14-35	5.6-7.3	0	0
		9-19	9.0-22	5.6-7.3	0	0
		19-36	10-20	7.4-8.4	15-25	0-1
		36-80	10-20	7.4-8.4	10-20	0-1
Storden, moderately eroded----------	20	0-7	11-18	7.4-8.4	5-30	0
		7-55	10-20	7.4-8.4	15-25	0-1
		55-80	10-20	7.4-8.4	10-20	0-1
Omsrud----------	14	0-12	14-35	5.6-7.3	0	0
		12-16	9.0-22	5.6-7.3	0	0
		16-32	10-20	7.4-8.4	15-25	0-1
		32-60	10-20	7.4-8.4	10-20	0-1
Ridgeton----------	9	0-23	20-25	6.1-7.3	0	0
		23-38	20-25	6.1-7.3	0	0
		38-50	15-25	6.1-7.3	0	0
		50-80	10-20	7.4-8.4	10-20	0-1
Delft----------	6	0-37	16-25	5.6-7.8	0	0
		37-50	10-18	6.6-7.8	0	0
		50-60	10-20	7.4-8.4	10-20	0-1
Terril----------	6	0-27	20-25	6.1-7.3	0	0
		27-40	20-25	6.1-7.3	0	0
		40-63	15-25	6.1-7.3	0	0
		63-80	10-20	7.4-8.4	10-20	0-1
L107A:						
Canisteo----------	50	0-18	19-37	7.4-8.4	5-15	0
		18-39	10-20	7.4-8.4	15-25	0-1
		39-80	10-20	7.4-8.4	10-20	0-1
Glencoe, depressional	35	0-10	23-37	6.1-7.8	0-5	0
		10-35	16-27	6.1-7.8	0-5	0
		35-48	14-25	6.6-7.8	0-5	0
		48-60	10-20	7.4-8.4	10-20	0-1
Harps----------	10	0-13	20-30	7.9-8.4	20-40	0
		13-30	10-20	7.4-8.4	15-25	0-1
		30-60	10-20	7.4-8.4	10-20	0-1

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L107A:						
Canisteo, depressional--------	3	0-17	19-37	7.4-8.4	5-15	0
		17-30	12-29	7.4-8.4	12-18	0
		30-60	10-20	7.4-8.4	10-20	0-1
Crippin----------	2	0-15	20-25	6.6-8.4	0-25	0
		15-27	20-25	7.4-8.4	5-30	0
		27-60	10-20	7.4-8.4	10-20	0-1
L111A:						
Nicollet----------	80	0-10	25-40	5.6-7.3	0	0
		10-31	15-25	5.6-7.8	0-15	0
		31-42	10-20	7.4-8.4	15-25	0-1
		42-80	10-20	7.4-8.4	10-20	0-1
Okabena----------	14	0-15	25-35	5.6-7.3	0	0
		15-22	15-30	5.6-7.3	0-5	0
		22-43	14-28	7.4-8.4	15-25	0
		43-48	15-25	7.4-8.4	5-15	0
		48-80	10-20	7.4-8.4	10-20	0
Clarion----------	4	0-14	20-25	5.6-7.3	0	0
		14-33	20-25	5.6-7.3	0-15	0
		33-60	10-20	7.4-8.4	15-25	0-1
Webster----------	2	0-24	22-32	6.6-7.3	0	0
		24-45	15-25	6.6-7.8	0-10	0
		45-80	10-20	7.4-8.4	10-20	0-1
L112A:						
Webster----------	80	0-24	22-32	6.6-7.3	0	0
		24-45	15-25	6.6-7.8	0-10	0
		45-80	10-20	7.4-8.4	10-20	0-1
Chetomba----------	10	0-23	22-35	6.1-7.3	0	0
		23-31	14-28	6.6-7.8	0	0
		31-43	10-20	7.4-8.4	5-20	0
		43-60	10-20	7.4-8.4	10-20	0-1
Glencoe, depressional	6	0-10	22-32	6.6-7.3	0	0
		10-29	16-27	6.1-7.8	0-5	0
		29-40	14-25	6.6-7.8	0-5	0
		40-80	10-20	7.4-8.4	10-20	0-1
Canisteo----------	2	0-17	19-37	7.4-8.4	5-15	0
		17-27	12-30	7.4-8.4	12-18	0
		27-60	10-20	7.4-8.4	10-15	0
Nicollet----------	2	0-10	25-40	5.6-7.3	0	0
		10-31	15-25	5.6-7.8	0-15	0
		31-42	10-20	7.4-8.4	15-25	0-1
		42-80	10-20	7.4-8.4	10-20	0-1
L126A:						
Coland, occasionally flooded----------	80	0-25	30-36	6.1-7.3	0	0
		25-54	30-36	6.1-7.3	0	0
		54-60	20-30	6.1-7.8	0-20	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L126A:						
Minneopa, occasionally flooded	10	0-15	11-20	5.6-7.3	0	0
		15-20	4.0-10	6.1-7.3	0	0
		20-60	1.0-6.0	6.1-8.4	0-15	0
Havelock, occasionally flooded	5	0-23	30-36	7.4-8.4	5-30	0
		23-35	30-36	7.4-8.4	5-30	0
		35-60	10-20	7.4-8.4	5-30	0
Spillville, occasionally flooded	5	0-51	20-25	5.6-7.3	0	0
		51-60	20-25	5.6-7.3	0	0
L127A:						
Coland, frequently flooded----------	80	0-12	30-36	6.1-7.3	0	0
		12-30	30-36	6.1-7.3	0	0
		30-55	30-36	6.1-7.3	0	0
		55-80	20-30	6.1-7.8	0-20	0
Minneopa, occasionally flooded	10	0-16	11-20	5.6-7.3	0	0
		16-29	4.0-10	6.1-7.3	0	0
		29-60	1.0-6.0	6.1-8.4	0-15	0
Havelock, frequently flooded----------	5	0-30	30-36	7.4-8.4	5-30	0
		30-40	30-36	7.4-8.4	5-30	0
		40-60	10-20	7.4-8.4	5-30	0
Spillville, occasionally flooded	5	0-51	20-25	5.6-7.3	0	0
		51-60	20-25	5.6-7.3	0	0
L129B:						
Terril----------	90	0-27	20-25	6.1-7.3	0	0
		27-40	20-25	6.1-7.3	0	0
		40-63	15-25	6.1-7.3	0	0
		63-80	10-20	7.4-8.4	10-20	0-1
Clarion----------	5	0-14	20-25	5.6-7.3	0	0
		14-33	20-25	5.6-7.3	0-15	0
		33-60	10-20	7.4-8.4	15-25	0-1
Delft----------	5	0-37	16-25	5.6-7.8	0	0
		37-50	10-18	6.6-7.8	0	0
		50-60	10-20	7.4-8.4	10-20	0-1
L130A:						
Okoboji mucky silty clay loam, depressional--------	75	0-13	41-50	6.1-7.8	0-15	0
		13-35	41-45	6.6-7.8	0-15	0
		35-60	36-41	6.6-8.4	0-30	0
Okoboji silty clay loam, depressional--	15	0-26	41-45	6.1-7.8	0-15	0
		26-42	41-45	6.6-7.8	0-15	0
		42-60	36-41	6.6-8.4	0-30	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L130A:						
Brownton----------	5	0-22	21-28	7.4-8.4	10-20	0
		22-38	18-31	7.4-8.4	10-25	0
		38-60	10-20	7.4-8.4	10-20	0-1
Spicer----------	5	0-16	28-40	7.4-8.4	5-30	0
		16-40	20-35	7.4-8.4	5-30	0
		40-60	15-30	7.4-8.4	5-30	0
L133A:						
Waldorf----------	80	0-15	36-52	6.1-7.3	0	0
		15-20	36-52	6.1-7.3	0	0
		20-53	25-46	6.6-7.8	0-15	0
		53-80	14-37	7.6-8.4	15-30	0
Marna----------	9	0-20	26-48	6.1-7.3	0	0
		20-32	22-48	6.1-7.3	0	0
		32-41	15-25	6.6-7.4	0	0
		41-60	10-20	7.4-8.4	15-25	0-1
Chetomba----------	5	0-23	22-35	6.1-7.3	0	0
		23-31	14-28	6.6-7.8	0	0
		31-43	10-20	7.4-8.4	5-20	0
		43-60	10-20	7.4-8.4	10-20	0-1
Brownton----------	2	0-22	21-28	7.4-8.4	10-20	0
		22-38	18-31	7.4-8.4	10-25	0
		38-60	10-20	7.4-8.4	10-20	0-1
Lura, depressional---	2	0-10	35-70	6.1-7.8	0-5	0
		10-58	29-54	6.1-7.3	0	0
		58-72	17-47	6.6-7.8	10-20	0
Barbert----------	1	0-7	13-20	5.1-6.5	0	0
		7-17	11-14	5.1-6.5	0	0
		17-43	23-34	5.1-7.3	0	0
		43-60	10-17	6.1-7.8	0	0
Ocheda----------	1	0-20	21-26	5.6-7.3	0	0
		20-28	18-28	5.6-7.3	0	0
		28-57	25-35	7.4-8.4	15-25	0
		57-80	10-20	7.4-8.4	10-20	0-1
L134B:						
Clarion----------	56	0-14	20-25	5.6-7.3	0	0
		14-33	20-25	5.6-7.3	0-15	0
		33-60	10-20	7.4-8.4	15-25	0-1
Crooksford----------	15	0-10	15-32	6.1-7.3	0	0
		10-20	15-32	6.1-7.3	0	0
		20-26	8.0-20	6.6-7.8	0-10	0
		26-34	20-25	5.6-7.3	0-15	0
		34-80	8.0-20	7.4-8.4	15-25	0
Clarion, moderately eroded----------	14	0-10	20-25	5.6-7.3	0	0
		10-38	20-25	5.6-7.3	0-15	0
		38-60	10-20	7.4-8.4	15-25	0-1

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L134B:						
Nicollet----------	5	0-10	25-40	5.6-7.3	0	0
		10-31	15-25	5.6-7.8	0-15	0
		31-42	10-20	7.4-8.4	15-25	0-1
		42-80	10-20	7.4-8.4	10-20	0-1
Swanlake----------	5	0-9	13-22	7.4-8.4	1-10	0
		9-43	10-20	7.4-8.4	15-25	0-1
		43-60	10-20	7.4-8.4	10-20	0-1
Terril----------	5	0-27	20-25	6.1-7.3	0	0
		27-40	20-25	6.1-7.3	0	0
		40-63	15-25	6.1-7.3	0	0
		63-80	10-20	7.4-8.4	10-20	0-1
L135A:						
Okabena----------	85	0-15	25-35	5.6-7.3	0	0
		15-22	15-30	5.6-7.3	0-5	0
		22-43	14-28	7.4-8.4	15-25	0
		43-48	15-25	7.4-8.4	5-15	0
		48-80	10-20	7.4-8.4	10-20	0
Kingston----------	5	0-16	25-35	5.6-7.3	0	0
		16-25	15-30	5.6-7.3	0-5	0
		25-60	15-25	7.4-8.4	5-15	0
Nicollet----------	4	0-10	25-40	5.6-7.3	0	0
		10-31	15-25	5.6-7.8	0-15	0
		31-42	10-20	7.4-8.4	15-25	0-1
		42-80	10-20	7.4-8.4	10-20	0-1
Chetomba----------	2	0-23	22-35	6.1-7.3	0	0
		23-31	14-28	6.6-7.8	0	0
		31-43	10-20	7.4-8.4	5-20	0
		43-60	10-20	7.4-8.4	10-20	0-1
Ocheda----------	2	0-20	21-26	5.6-7.3	0	0
		20-28	18-28	5.6-7.3	0	0
		28-57	25-35	7.4-8.4	15-25	0
		57-80	10-20	7.4-8.4	10-20	0-1
Waldorf----------	2	0-15	36-52	6.1-7.3	0	0
		15-20	36-52	6.1-7.3	0	0
		20-53	25-46	6.6-7.8	0-15	0
		53-80	14-37	7.6-8.4	15-30	0
L136A:						
Crooksford----------	80	0-10	15-32	6.1-7.3	0	0
		10-20	15-32	6.1-7.3	0	0
		20-26	8.0-20	6.6-7.8	0-10	0
		26-34	20-25	5.6-7.3	0-15	0
		34-80	8.0-20	7.4-8.4	15-25	0
Nicollet----------	8	0-10	25-40	5.6-7.3	0	0
		10-31	15-25	5.6-7.8	0-15	0
		31-42	10-20	7.4-8.4	15-25	0-1
		42-80	10-20	7.4-8.4	10-20	0-1

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L136A:						
Clarion----------	7	0-14	20-25	5.6-7.3	0	0
		14-33	20-25	5.6-7.3	0-15	0
		33-60	10-20	7.4-8.4	15-25	0-1
Okabena----------	3	0-15	25-35	5.6-7.3	0	0
		15-22	15-30	5.6-7.3	0-5	0
		22-43	14-28	7.4-8.4	15-25	0
		43-48	15-25	7.4-8.4	5-15	0
		48-80	10-20	7.4-8.4	10-20	0
Webster----------	2	0-24	22-32	6.6-7.3	0	0
		24-45	15-25	6.6-7.8	0-10	0
		45-80	10-20	7.4-8.4	10-20	0-1
L137A:						
Cylinder----------	90	0-14	20-25	5.6-7.3	0	0
		14-18	20-25	6.1-7.3	0	0
		18-28	20-25	6.1-7.3	0	0
		28-80	5.0-10	6.6-8.4	0-25	0
Biscay----------	4	0-20	20-35	6.1-7.8	0-15	0
		20-28	12-25	6.6-7.8	0-15	0
		28-36	5.0-20	6.6-7.8	0-15	0
		36-60	1.0-5.0	7.4-8.4	5-30	0
Wadena----------	4	0-13	5.0-25	6.1-7.3	0	0
		13-20	5.0-20	5.6-7.3	0	0
		20-30	4.0-20	5.6-7.3	0	0
		30-60	0.0-5.0	6.6-8.4	0-15	0
Linder----------	2	0-15	15-20	6.1-7.3	0	0
		15-29	10-15	6.1-7.3	0	0
		29-60	5.0-10	7.4-8.4	5-30	0
L138B:						
Estherville----------	85	0-13	2.0-20	5.6-7.3	0	0
		13-18	4.0-20	5.6-7.3	0	0
		18-23	0.0-5.0	5.6-7.3	0	0
		23-60	0.0-5.0	6.6-8.4	0-15	0
Wadena----------	7	0-13	5.0-25	6.1-7.3	0	0
		13-20	5.0-20	5.6-7.3	0	0
		20-30	4.0-20	5.6-7.3	0	0
		30-60	0.0-5.0	6.6-8.4	0-15	0
Hawick----------	5	0-7	1.0-10	6.1-7.8	0-10	0
		7-80	1.0-5.0	7.4-8.4	5-15	0
Cylinder----------	3	0-14	20-25	5.6-7.3	0	0
		14-18	20-25	6.1-7.3	0	0
		18-28	20-25	6.1-7.3	0	0
		28-80	5.0-10	6.6-8.4	0-25	0
L139A:						
Wadena----------	85	0-13	5.0-25	6.1-7.3	0	0
		13-20	5.0-20	5.6-7.3	0	0
		20-30	4.0-20	5.6-7.3	0	0
		30-60	0.0-5.0	6.6-8.4	0-15	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L139A:						
Estherville----------	5	0-13	2.0-20	5.6-7.3	0	0
		13-18	4.0-20	5.6-7.3	0	0
		18-23	0.0-5.0	5.6-7.3	0	0
		23-60	0.0-5.0	6.6-8.4	0-15	0
Kanaranzi----------	5	0-7	15-30	6.1-7.3	0	0
		7-20	10-25	6.1-7.3	0	0
		20-80	0.0-5.0	6.1-8.4	0-15	0
Cylinder----------	3	0-14	20-25	5.6-7.3	0	0
		14-18	20-25	6.1-7.3	0	0
		18-28	20-25	6.1-7.3	0	0
		28-80	5.0-10	6.6-8.4	0-25	0
Dickinson----------	2	0-14	15-20	5.6-7.3	0	0
		14-39	15-20	5.1-6.5	0	0
		39-60	5.0-10	5.6-7.3	0	0
L139B:						
Wadena----------	85	0-13	5.0-25	6.1-7.3	0	0
		13-20	5.0-20	5.6-7.3	0	0
		20-30	4.0-20	5.6-7.3	0	0
		30-60	0.0-5.0	6.6-8.4	0-15	0
Estherville----------	7	0-13	2.0-20	5.6-7.3	0	0
		13-18	4.0-20	5.6-7.3	0	0
		18-23	0.0-5.0	5.6-7.3	0	0
		23-60	0.0-5.0	6.6-8.4	0-15	0
Cylinder----------	3	0-14	20-25	5.6-7.3	0	0
		14-18	20-25	6.1-7.3	0	0
		18-28	20-25	6.1-7.3	0	0
		28-80	5.0-10	6.6-8.4	0-25	0
Dickinson----------	3	0-14	15-20	5.6-7.3	0	0
		14-39	15-20	5.1-6.5	0	0
		39-60	5.0-10	5.6-7.3	0	0
Biscay----------	2	0-20	20-35	6.1-7.8	0-15	0
		20-28	12-25	6.6-7.8	0-15	0
		28-36	5.0-20	6.6-7.8	0-15	0
		36-60	1.0-5.0	7.4-8.4	5-30	0
L140A:						
Ocheda----------	85	0-20	21-26	5.6-7.3	0	0
		20-28	18-28	5.6-7.3	0	0
		28-57	25-35	7.4-8.4	15-25	0
		57-80	10-20	7.4-8.4	10-20	0-1
Guckeen----------	5	0-15	21-26	5.6-7.3	0	0
		15-24	18-26	5.6-7.3	0	0
		24-30	12-21	6.1-7.3	0	0
		30-60	10-20	7.4-8.4	10-20	0-1
Collinwood----------	3	0-16	35-44	5.6-7.3	0	0
		16-32	26-52	5.6-7.3	0	0
		32-60	25-35	7.4-8.4	5-15	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L140A:						
Nicollet----------	3	0-10	25-40	5.6-7.3	0	0
		10-31	15-25	5.6-7.8	0-15	0
		31-42	10-20	7.4-8.4	15-25	0-1
		42-80	10-20	7.4-8.4	10-20	0-1
Clarion----------	2	0-14	20-25	5.6-7.3	0	0
		14-33	20-25	5.6-7.3	0-15	0
		33-60	10-20	7.4-8.4	15-25	0-1
Marna----------	2	0-20	26-48	6.1-7.3	0	0
		20-32	22-48	6.1-7.3	0	0
		32-41	15-25	6.6-7.4	0	0
		41-60	10-20	7.4-8.4	15-25	0-1
L141A:						
Spillville, occasionally flooded	86	0-51	20-25	5.6-7.3	0	0
		51-60	20-25	5.6-7.3	0	0
Coland, occasionally flooded----------	8	0-25	30-36	6.1-7.3	0	0
		25-54	30-36	6.1-7.3	0	0
		54-60	20-30	6.1-7.8	0-20	0
Hanlon, occasionally flooded----------	4	0-24	15-20	6.1-7.3	0	0
		24-52	10-15	6.1-7.3	0	0
		52-57	5.0-10	5.6-7.3	0	0
		57-80	5.0-10	5.6-7.8	0-15	0
Havelock, occasionally flooded	2	0-23	30-36	7.4-8.4	5-30	0
		23-35	30-36	7.4-8.4	5-30	0
		35-60	10-20	7.4-8.4	5-30	0
L144A:						
Chetomba----------	75	0-23	22-35	6.1-7.3	0	0
		23-31	14-28	6.6-7.8	0	0
		31-43	10-20	7.4-8.4	5-20	0
		43-60	10-20	7.4-8.4	10-20	0-1
Waldorf----------	13	0-15	36-52	6.1-7.3	0	0
		15-20	36-52	6.1-7.3	0	0
		20-53	25-46	6.6-7.8	0-15	0
		53-80	14-37	7.6-8.4	15-30	0
Webster----------	5	0-24	22-32	6.6-7.3	0	0
		24-45	15-25	6.6-7.8	0-10	0
		45-80	10-20	7.4-8.4	10-20	0-1
Okoboji, depressional	3	0-26	41-45	6.1-7.8	0-15	0
		26-42	41-45	6.6-7.8	0-15	0
		42-60	36-41	6.6-8.4	0-30	0
Prinsburg----------	3	0-19	22-35	7.4-8.4	5-25	0
		19-29	14-28	7.4-8.4	5-25	0
		29-46	10-20	7.4-8.4	5-25	0
		46-60	10-20	7.4-8.4	10-20	0-1

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L144A:						
Okabena	1	0-15	25-35	5.6-7.3	0	0
		15-22	15-30	5.6-7.3	0-5	0
		22-43	14-28	7.4-8.4	15-25	0
		43-48	15-25	7.4-8.4	5-15	0
		48-80	10-20	7.4-8.4	10-20	0-1
L145A:						
Canisteo	80	0-17	19-37	7.4-8.4	5-15	0
		17-27	12-30	7.4-8.4	12-18	0
		27-60	10-20	7.4-8.4	10-15	0
Glencoe, depressional	10	0-10	22-32	6.6-7.3	0	0
		10-29	16-27	6.1-7.8	0-5	0
		29-40	14-25	6.6-7.8	0-5	0
		40-80	10-20	7.4-8.4	10-20	0-1
Webster	5	0-24	22-32	6.6-7.3	0	0
		24-45	15-25	6.6-7.8	0-10	0
		45-80	10-20	7.4-8.4	10-20	0-1
Prinsburg	4	0-19	22-35	7.4-8.4	5-25	0
		19-29	14-28	7.4-8.4	5-25	0
		29-46	10-20	7.4-8.4	5-25	0
		46-60	10-20	7.4-8.4	10-20	0-1
Crippin	1	0-15	20-25	6.6-8.4	0-25	0
		15-27	20-25	7.4-8.4	5-30	0
		27-60	10-20	7.4-8.4	10-20	0-1
L146A:						
Glencoe, depressional	80	0-10	22-32	6.6-7.3	0	0
		10-29	16-27	6.1-7.8	0-5	0
		29-40	14-25	6.6-7.8	0-5	0
		40-80	10-20	7.4-8.4	10-20	0-1
Canisteo	10	0-18	19-37	7.4-8.4	5-15	0
		18-39	10-20	7.4-8.4	15-25	0-1
		39-80	10-20	7.4-8.4	10-20	0-1
Harps	10	0-13	20-30	7.9-8.4	20-40	0
		13-30	10-20	7.4-8.4	15-25	0-1
		30-60	10-20	7.4-8.4	10-20	0-1
L150A:						
Prinsburg	75	0-19	22-35	7.4-8.4	5-25	0
		19-29	14-28	7.4-8.4	5-25	0
		29-46	10-20	7.4-8.4	5-25	0
		46-60	10-20	7.4-8.4	10-20	0-1
Chetomba	14	0-23	22-35	6.1-7.3	0	0
		23-31	14-28	6.6-7.8	0	0
		31-43	10-20	7.4-8.4	5-20	0
		43-60	10-20	7.4-8.4	10-20	0-1
Webster	4	0-24	22-32	6.6-7.3	0	0
		24-45	15-25	6.6-7.8	0-10	0
		45-80	10-20	7.4-8.4	10-20	0-1
Canisteo	3	0-17	19-37	7.4-8.4	5-15	0
		17-27	12-29	7.4-8.4	12-18	0
		27-60	10-20	7.4-8.4	10-20	0-1

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L150A:						
Okabena----------	2	0-15	25-35	5.6-7.3	0	0
		15-22	15-30	5.6-7.3	0-5	0
		22-43	14-28	7.4-8.4	15-25	0
		43-48	15-25	7.4-8.4	5-15	0
		48-80	10-20	7.4-8.4	10-20	0-1
Okoboji, depressional	2	0-26	41-45	6.1-7.8	0-15	0
		26-42	41-45	6.6-7.8	0-15	0
		42-60	36-41	6.6-8.4	0-30	0
L151A:						
Glencoe, ponded------	80	0-42	20-40	6.1-7.8	0-5	0
		42-50	15-30	6.6-7.8	0-5	0
		50-60	10-20	7.4-8.4	10-20	0-1
Okoboji, ponded------	14	0-10	35-50	6.1-7.8	0-15	0
		10-52	25-45	6.6-7.8	0-15	0
		52-60	18-28	6.6-7.8	0-30	0
Klossner, ponded-----	6	0-26	50-150	5.6-7.4	0-5	0
		26-33	35-65	6.1-7.4	0-5	0
		33-40	20-40	6.1-7.4	0-5	0
		40-80	5.0-25	6.1-8.4	0-20	0-1
L152B:						
Lowlein----------	60	0-14	10-25	6.1-7.3	0	0
		14-24	5.0-15	6.1-7.3	0	0
		24-31	0.0-10	6.1-7.3	0	0
		31-60	10-20	7.4-8.4	10-20	0-1
Round Lake----------	20	0-11	2.0-20	5.6-7.3	0	0
		11-14	4.0-20	5.6-7.3	0	0
		14-26	0.0-5.0	5.6-7.3	0	0
		26-35	0.0-5.0	6.6-8.4	15-25	0
		35-48	0.0-5.0	6.6-8.4	0-15	0
		48-80	15-28	7.4-8.4	5-20	0
Nicollet----------	12	0-17	25-40	5.6-7.3	0	0
		17-33	15-25	5.6-7.3	0	0
		33-36	15-25	7.4-8.4	0-15	0
		36-60	10-20	7.4-8.4	10-20	0-1
Farrar----------	6	0-16	15-20	5.6-7.3	0	0
		16-25	15-20	5.6-6.5	0	0
		25-41	15-20	6.1-7.3	0	0
		41-60	10-20	7.4-8.4	10-20	0-1
Webster----------	2	0-19	22-32	6.6-7.3	0	0
		19-26	15-25	6.6-7.8	0-10	0
		26-60	10-20	7.4-8.4	10-20	0-1
L153A:						
Essexville----------	85	0-8	10-17	7.4-8.4	5-30	0
		8-13	2.0-9.0	7.4-8.4	5-30	0
		13-22	1.0-7.0	7.4-8.4	5-30	0
		22-60	10-20	7.4-8.4	10-20	0-1
Canisteo----------	5	0-18	19-37	7.4-8.4	5-15	0
		18-39	10-20	7.4-8.4	15-25	0-1
		39-80	10-20	7.4-8.4	10-20	0-1

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L153A:						
Glencoe, depressional	4	0-10	23-37	6.1-7.8	0-5	0
		10-35	16-27	6.1-7.8	0-5	0
		35-48	14-25	6.6-7.8	0-5	0
		48-60	10-20	7.4-8.4	10-20	0-1
Belleville----------	3	0-11	8.0-29	6.1-7.3	0	0
		11-27	3.0-8.0	6.1-7.3	0	0
		27-48	10-20	6.1-7.3	0	0
		48-80	10-20	7.4-8.4	10-20	0-1
Very poorly drained soils in depressions	2	0-13	22-33	6.1-7.8	0-5	0
		13-31	16-27	6.1-7.8	0-5	0
		31-45	14-25	6.6-7.8	0-5	0
		45-80	10-20	7.4-8.4	10-20	0-1
Somewhat poorly drained soils-------	1	0-10	3.0-8.0	6.1-7.3	0	0
		10-24	2.0-6.0	5.6-7.3	0	0
		24-80	10-20	7.4-8.4	10-20	0-1
L154E:						
Belview----------	60	0-9	11-18	7.4-8.4	5-30	0
		9-50	10-20	7.4-8.4	15-25	0-1
		50-60	10-20	7.4-8.4	10-20	0-1
Ridgeton----------	22	0-32	20-25	6.1-7.3	0	0
		32-40	15-25	6.1-7.3	0	0
		40-80	10-20	7.4-8.4	10-20	0-1
Omsrud----------	14	0-16	14-35	5.6-7.3	0	0
		16-26	9.0-22	5.6-7.3	0	0
		26-60	10-20	7.4-8.4	10-20	0-1
Delft----------	2	0-37	16-25	5.6-7.8	0	0
		37-50	10-18	6.6-7.8	0	0
		50-60	10-20	7.4-8.4	10-20	0-1
Terril----------	2	0-24	20-25	6.1-7.3	0	0
		24-37	20-25	6.1-7.3	0	0
		37-57	15-25	6.1-7.3	0	0
		57-80	10-20	7.4-8.4	10-20	0-1
L155A:						
Okoboji, ponded------	85	0-10	35-50	6.1-7.8	0-15	0
		10-52	25-45	6.6-7.8	0-15	0
		52-60	18-28	6.6-7.8	0-30	0
Glencoe, ponded------	10	0-42	20-40	6.1-7.8	0-5	0
		42-50	15-30	6.6-7.8	0-5	0
		50-60	10-20	7.4-8.4	10-20	0-1
Blue Earth, ponded---	3	0-50	30-70	7.4-8.4	5-20	0
		50-60	30-70	7.4-8.4	5-40	0
Klossner, ponded-----	2	0-26	50-150	5.6-7.4	0-5	0
		26-33	35-65	6.1-7.4	0-5	0
		33-40	20-40	6.1-7.4	0-5	0
		40-80	5.0-25	6.1-8.4	0-20	0-1

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L156C2:						
Omsrud, moderately eroded----------	44	0-9	14-35	5.6-7.3	0	0
		9-19	9.0-22	5.6-7.3	0	0
		19-36	10-20	7.4-8.4	15-25	0-1
		36-80	10-20	7.4-8.4	10-20	0-1
Storden, moderately eroded----------	24	0-7	11-18	7.4-8.4	5-30	0
		7-55	10-20	7.4-8.4	15-25	0-1
		55-80	10-20	7.4-8.4	10-20	0-1
Pilot Grove----------	20	0-9	2.0-20	5.6-7.3	0	0
		9-17	4.0-20	5.6-7.3	0	0
		17-21	0.0-5.0	5.6-7.3	0	0
		21-58	0.0-5.0	6.6-8.4	0-15	0
		58-80	10-20	7.4-8.4	10-20	0-1
Hawick----------	8	0-7	1.0-10	6.1-7.8	0-10	0
		7-80	1.0-5.0	7.4-8.4	5-15	0
Delft----------	2	0-37	16-25	5.6-7.8	0	0
		37-50	10-18	6.6-7.8	0	0
		50-60	10-20	7.4-8.4	10-20	0-1
Terril----------	2	0-27	20-25	6.1-7.3	0	0
		27-40	20-25	6.1-7.3	0	0
		40-63	15-25	6.1-7.3	0	0
		63-80	10-20	7.4-8.4	10-20	0-1
L156D2:						
Omsrud, moderately eroded----------	50	0-9	14-35	5.6-7.3	0	0
		9-19	9.0-22	5.6-7.3	0	0
		19-36	10-20	7.4-8.4	15-25	0-1
		36-80	10-20	7.4-8.4	10-20	0-1
Storden, moderately eroded----------	25	0-7	11-18	7.4-8.4	5-30	0
		7-55	10-20	7.4-8.4	15-25	0-1
		55-80	10-20	7.4-8.4	10-20	0-1
Pilot Grove----------	15	0-9	2.0-20	5.6-7.3	0	0
		9-17	4.0-20	5.6-7.3	0	0
		17-21	0.0-5.0	5.6-7.3	0	0
		21-58	0.0-5.0	6.6-8.4	0-15	0
		58-80	10-20	7.4-8.4	10-20	0-1
Hawick----------	4	0-7	1.0-10	6.1-7.8	0-10	0
		7-80	1.0-5.0	7.4-8.4	5-15	0
Ridgeton----------	2	0-23	20-25	6.1-7.3	0	0
		23-38	20-25	6.1-7.3	0	0
		38-50	15-25	6.1-7.3	0	0
		50-80	10-20	7.4-8.4	10-20	0-1
Delft----------	2	0-37	16-25	5.6-7.8	0	0
		37-50	10-18	6.6-7.8	0	0
		50-60	10-20	7.4-8.4	10-20	0-1

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L156D2:						
Terril----------	2	0-27	20-25	6.1-7.3	0	0
		27-40	20-25	6.1-7.3	0	0
		40-63	15-25	6.1-7.3	0	0
		63-80	10-20	7.4-8.4	10-20	0-1
L157A:						
Lowlein----------	78	0-14	10-25	6.1-7.3	0	0
		14-24	5.0-15	6.1-7.3	0	0
		24-31	0.0-10	6.1-7.3	0	0
		31-60	10-20	7.4-8.4	10-20	0-1
Nicollet----------	14	0-17	25-40	5.6-7.3	0	0
		17-33	15-25	5.6-7.3	0	0
		33-36	15-25	7.4-8.4	0-15	0
		36-60	10-20	7.4-8.4	10-20	0-1
Round Lake----------	4	0-11	2.0-20	5.6-7.3	0	0
		11-14	4.0-20	5.6-7.3	0	0
		14-26	0.0-5.0	5.6-7.3	0	0
		26-35	0.0-5.0	6.6-8.4	15-25	0
		35-48	0.0-5.0	6.6-8.4	0-15	0
		48-80	15-28	7.4-8.4	5-20	0
Webster----------	2	0-19	22-32	6.6-7.3	0	0
		19-26	15-25	6.6-7.8	0-10	0
		26-60	10-20	7.4-8.4	10-20	0-1
Farrar----------	2	0-16	15-20	5.6-7.3	0	0
		16-25	15-20	5.6-6.5	0	0
		25-41	15-20	6.1-7.3	0	0
		41-60	10-20	7.4-8.4	10-20	0-1
L158B:						
Round Lake----------	80	0-11	2.0-20	5.6-7.3	0	0
		11-14	4.0-20	5.6-7.3	0	0
		14-26	0.0-5.0	5.6-7.3	0	0
		26-35	0.0-5.0	6.6-8.4	15-25	0
		35-48	0.0-5.0	6.6-8.4	0-15	0
		48-80	15-28	7.4-8.4	5-20	0
Lowlein----------	13	0-14	10-25	6.1-7.3	0	0
		14-24	5.0-15	6.1-7.3	0	0
		24-31	0.0-10	6.1-7.3	0	0
		31-60	10-20	7.4-8.4	10-20	0-1
Ocheyedan----------	3	0-10	20-25	5.6-7.3	0	0
		10-30	20-25	6.1-7.8	0-15	0
		30-60	20-25	6.6-8.4	0-30	0
Estherville----------	2	0-13	2.0-20	5.6-7.3	0	0
		13-18	4.0-20	5.6-7.3	0	0
		18-23	0.0-5.0	5.6-7.3	0	0
		23-60	0.0-5.0	6.6-8.4	0-15	0
Webster----------	2	0-19	22-32	6.6-7.3	0	0
		19-26	15-25	6.6-7.8	0-10	0
		26-60	10-20	7.4-8.4	10-20	0-1

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L159A:						
Knoke, depressional--	85	0-10	41-45	7.4-8.4	5-30	0
		10-42	36-41	7.4-8.4	5-30	0
		42-80	36-41	7.4-8.4	5-30	0
Okoboji, depressional	5	0-26	41-45	6.1-7.8	0-15	0
		26-42	41-45	6.6-7.8	0-15	0
		42-60	36-41	6.6-8.4	0-30	0
Essexville----------	4	0-8	10-17	7.4-8.4	5-30	0
		8-13	2.0-9.0	7.4-8.4	5-30	0
		13-22	1.0-7.0	7.4-8.4	5-30	0
		22-60	10-20	7.4-8.4	10-20	0-1
Canisteo----------	3	0-18	19-37	7.4-8.4	5-15	0
		18-39	10-20	7.4-8.4	15-25	0-1
		39-80	10-20	7.4-8.4	10-20	0-1
Canisteo, depressional--------	3	0-17	19-37	7.4-8.4	5-15	0
		17-30	12-29	7.4-8.4	12-18	0
		30-60	10-20	7.4-8.4	10-20	0-1
L160B:						
Dickinson, loamy substratum----------	85	0-16	15-20	5.6-7.3	0	0
		16-30	15-20	5.1-6.5	0	0
		30-47	5.0-10	5.6-7.8	0	0
		47-76	5.0-10	5.6-7.8	0	0
		76-80	10-20	7.4-8.4	10-20	0-1
Farrar----------	8	0-16	15-20	5.6-7.3	0	0
		16-25	15-20	5.6-6.5	0	0
		25-41	15-20	6.1-7.3	0	0
		41-60	10-20	7.4-8.4	10-20	0-1
Lowlein----------	7	0-14	10-25	6.1-7.3	0	0
		14-24	5.0-15	6.1-7.3	0	0
		24-31	0.0-10	6.1-7.3	0	0
		31-60	10-20	7.4-8.4	10-20	0-1
L161C:						
Estherville----------	38	0-13	2.0-20	5.6-7.3	0	0
		13-18	4.0-20	5.6-7.3	0	0
		18-23	0.0-5.0	5.6-7.3	0	0
		23-60	0.0-5.0	6.6-8.4	0-15	0
Pilot Grove----------	38	0-9	2.0-20	5.6-7.3	0	0
		9-17	4.0-20	5.6-7.3	0	0
		17-22	0.0-5.0	5.6-7.3	0	0
		22-39	0.0-5.0	6.6-8.4	0-15	0
		39-55	0.0-5.0	6.6-8.4	0-15	0
		55-80	15-28	7.4-8.4	5-20	0
Well drained soils---	15	0-8	20-25	5.6-7.3	0	0
		8-28	20-25	6.1-7.8	0-15	0
		28-80	20-25	6.6-8.4	0-30	0
Hawick----------	5	0-7	1.0-10	6.1-7.8	0-10	0
		7-80	1.0-5.0	7.4-8.4	5-15	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L161C:						
Delft----------	2	0-37	16-25	5.6-7.8	0	0
		37-50	10-18	6.6-7.8	0	0
		50-60	10-20	7.4-8.4	10-20	0-1
Terril----------	2	0-27	20-25	6.1-7.3	0	0
		27-40	20-25	6.1-7.3	0	0
		40-63	15-25	6.1-7.3	0	0
		63-80	10-20	7.4-8.4	10-20	0-1
L162B:						
Clarion----------	45	0-14	20-25	5.6-7.3	0	0
		14-33	20-25	5.6-7.3	0-15	0
		33-60	10-20	7.4-8.4	15-25	0-1
Round Lake----------	30	0-11	2.0-20	5.6-7.3	0	0
		11-14	4.0-20	5.6-7.3	0	0
		14-26	0.0-5.0	5.6-7.3	0	0
		26-35	0.0-5.0	6.6-8.4	15-25	0
		35-48	0.0-5.0	6.6-8.4	0-15	0
		48-80	15-28	7.4-8.4	5-20	0
Estherville----------	8	0-13	2.0-20	5.6-7.3	0	0
		13-18	4.0-20	5.6-7.3	0	0
		18-23	0.0-5.0	5.6-7.3	0	0
		23-60	0.0-5.0	6.6-8.4	0-15	0
Lowlein----------	5	0-14	10-25	6.1-7.3	0	0
		14-24	5.0-15	6.1-7.3	0	0
		24-31	0.0-10	6.1-7.3	0	0
		31-60	10-20	7.4-8.4	10-20	0-1
Nicollet----------	5	0-17	25-40	5.6-7.3	0	0
		17-33	15-25	5.6-7.3	0	0
		33-36	15-25	7.4-8.4	0-15	0
		36-60	10-20	7.4-8.4	10-20	0-1
Swanlake----------	5	0-9	13-22	7.4-8.4	1-10	0
		9-43	10-20	7.4-8.4	15-25	0-1
		43-60	10-20	7.4-8.4	10-20	0-1
Webster----------	2	0-19	22-32	6.6-7.3	0	0
		19-26	15-25	6.6-7.8	0-10	0
		26-60	10-20	7.4-8.4	10-20	0-1
L163A:						
Okoboji, depressional	92	0-26	41-45	6.1-7.8	0-15	0
		26-42	41-45	6.6-7.8	0-15	0
		42-60	36-41	6.6-8.4	0-30	0
Canisteo----------	2	0-17	19-37	7.4-8.4	5-15	0
		17-27	12-30	7.4-8.4	12-18	0
		27-60	10-20	7.4-8.4	10-15	0
Harpster----------	2	0-10	26-33	7.4-8.4	15-40	0
		10-18	26-33	7.4-8.4	15-40	0
		18-40	17-23	7.4-8.4	5-40	0
		40-60	13-22	7.4-8.4	5-40	0
Knoke, depressional--	2	0-10	41-45	7.4-8.4	5-30	0
		10-42	36-41	7.4-8.4	5-30	0
		42-80	36-41	7.4-8.4	5-30	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
L163A:						
Prinsburg----------	2	0-19	22-35	7.4-8.4	5-25	0
		19-29	14-28	7.4-8.4	5-25	0
		29-46	10-20	7.4-8.4	5-25	0
		46-60	10-20	7.4-8.4	10-20	0-1
L170B:						
Estherville----------	50	0-13	2.0-20	5.6-7.3	0	0
		13-18	4.0-20	5.6-7.3	0	0
		18-23	0.0-5.0	5.6-7.3	0	0
		23-60	0.0-5.0	6.6-8.4	0-15	0
Round Lake----------	45	0-11	2.0-20	5.6-7.3	0	0
		11-14	4.0-20	5.6-7.3	0	0
		14-26	0.0-5.0	5.6-7.3	0	0
		26-35	0.0-5.0	6.6-8.4	15-25	0
		35-48	0.0-5.0	6.6-8.4	0-15	0
		48-80	15-28	7.4-8.4	5-20	0
Lowlein----------	3	0-14	10-25	6.1-7.3	0	0
		14-24	5.0-15	6.1-7.3	0	0
		24-31	0.0-10	6.1-7.3	0	0
		31-60	10-20	7.4-8.4	10-20	0-1
Poorly drained soils	2	0-22	22-32	6.6-7.3	0	0
		22-30	15-25	6.6-7.8	0-10	0
		30-57	0.0-5.0	6.6-8.4	0-15	0
		57-80	10-20	7.4-8.4	10-20	0-1
M-W.						
Water, miscellaneous						
P1B:						
Annieville----------	80	0-11	20-41	6.1-7.3	0	0
		11-52	15-41	6.1-7.3	0	0
		52-57	5.0-10	6.6-7.8	0-5	0
		57-80	10-18	7.4-8.4	10-20	0
McCreath----------	10	0-17	20-41	6.1-7.3	0	0
		17-35	15-41	6.1-7.3	0	0
		35-44	10-25	7.4-8.4	8-15	0
		44-49	5.0-10	6.6-7.8	0-5	0
		49-80	10-18	7.4-8.4	10-20	0
Galva----------	5	0-11	20-32	6.1-7.3	0	0
		11-31	15-27	6.1-7.3	0	0
		31-45	10-25	6.1-7.3	0	0
		45-60	10-20	7.4-8.4	3-15	0
Primghar----------	5	0-21	25-35	6.1-7.3	0	0
		21-42	15-30	6.1-7.3	0	0
		42-60	10-20	7.4-8.4	1-10	0
P2A:						
McCreath----------	80	0-17	20-41	6.1-7.3	0	0
		17-35	15-41	6.1-7.3	0	0
		35-44	10-25	7.4-8.4	8-15	0
		44-49	5.0-10	6.6-7.8	0-5	0
		49-80	10-18	7.4-8.4	10-20	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
P2A:						
Gillett Grove--------	10	0-17	25-45	6.1-7.3	0	0
		17-44	15-35	6.1-7.3	0	0
		44-57	10-25	7.9-8.4	10-20	0
		57-80	10-18	7.4-8.4	10-20	0
Annieville----------	5	0-11	20-41	6.1-7.3	0	0
		11-52	15-41	6.1-7.3	0	0
		52-57	5.0-10	6.6-7.8	0-5	0
		57-80	10-18	7.4-8.4	10-20	0
Primghar----------	5	0-21	25-35	6.1-7.3	0	0
		21-42	15-30	6.1-7.3	0	0
		42-60	10-20	7.4-8.4	1-10	0
P3A:						
Biscay, occasionally flooded----------	85	0-16	20-35	6.1-7.3	0	0
		16-21	12-25	6.6-7.3	0	0
		21-31	12-25	6.6-7.3	0	0
		31-60	1.0-5.0	7.4-8.4	5-30	0
Cylinder, occasionally flooded	10	0-18	11-25	6.1-7.3	0	0
		18-28	11-15	6.1-7.3	0	0
		28-39	1.0-6.0	7.4-8.4	0	0
		39-60	1.0-6.0	7.4-8.4	1-5	0
Talcot, occasionally flooded----------	5	0-22	21-30	7.4-8.4	5-30	0
		22-33	15-25	7.4-8.4	5-30	0
		33-60	1.0-3.0	7.4-8.4	5-30	0
P7A:						
Comfrey, occasionally flooded----------	80	0-26	20-30	6.6-7.3	0	0
		26-35	12-25	6.6-7.3	0	0
		35-60	12-25	6.6-8.4	0-5	0
Colo, occasionally flooded----------	5	0-34	25-41	5.6-7.3	0	0
		34-52	18-41	5.6-7.3	0	0
		52-60	15-41	6.1-7.3	0	0
Havelock, occasionally flooded	5	0-32	24-33	7.4-8.4	5-30	0
		32-60	12-27	7.4-8.4	5-30	0
Havelock, frequently flooded----------	5	0-32	24-33	7.4-8.4	5-30	0
		32-60	12-27	7.4-8.4	5-30	0
Spillco, occasionally flooded----------	5	0-10	20-25	6.6-7.3	0	0
		10-22	20-25	6.6-8.4	0-30	0
		22-60	12-25	6.6-8.4	0-30	0
P9A:						
Gillett Grove--------	85	0-17	25-45	6.1-7.3	0	0
		17-44	15-35	6.1-7.3	0	0
		44-57	10-25	7.9-8.4	10-20	0
		57-80	10-18	7.4-8.4	10-20	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
P9A:						
McCreath----------	10	0-17	20-41	6.1-7.3	0	0
		17-35	15-41	6.1-7.3	0	0
		35-44	10-25	7.4-8.4	8-15	0
		44-49	5.0-10	6.6-7.8	0-5	0
		49-80	10-18	7.4-8.4	10-20	0
Afton, frequently flooded----------	5	0-32	19-30	6.1-7.3	0	0
		32-43	15-25	6.6-7.8	0	0
		43-80	15-25	7.4-8.4	1-10	0
P12B:						
Everly----------	80	0-10	20-33	6.1-7.3	0	0
		10-18	15-20	6.1-7.3	0	0
		18-80	10-18	7.4-8.4	10-20	0
Sac----------	10	0-11	20-41	6.1-7.3	0	0
		11-28	15-41	6.1-7.3	0	0
		28-33	10-18	6.1-7.3	0	0
		33-60	10-18	7.4-8.4	10-20	0
Ransom----------	5	0-16	25-35	6.6-7.3	0	0
		16-33	15-30	6.6-7.3	0	0
		33-80	10-18	7.4-8.4	10-20	0
Wilmonton----------	5	0-15	19-30	6.1-7.3	0	0
		15-20	15-22	6.1-7.3	0	0
		20-25	10-18	6.1-7.3	0	0
		25-55	10-18	7.4-8.4	10-20	0
		55-80	10-18	7.4-8.4	10-20	0
P12C2:						
Everly, moderately eroded----------	80	0-7	20-33	6.1-7.3	0	0
		7-16	15-20	6.1-7.3	0	0
		16-80	10-18	7.4-8.4	10-20	0
Everly----------	10	0-10	20-33	6.1-7.3	0	0
		10-18	15-20	6.1-7.3	0	0
		18-80	10-18	7.4-8.4	10-20	0
Moneta----------	5	0-9	10-25	7.4-8.4	0-10	0
		9-13	10-18	7.4-8.4	1-10	0
		13-53	10-18	7.4-8.4	10-20	0
		53-80	10-18	7.4-8.4	10-20	0
Wilmonton----------	5	0-15	19-30	6.1-7.3	0	0
		15-20	15-22	6.1-7.3	0	0
		20-25	10-18	6.1-7.3	0	0
		25-55	10-18	7.4-8.4	10-20	0
		55-80	10-18	7.4-8.4	10-20	0
P15B:						
Galva----------	80	0-11	20-32	6.1-7.3	0	0
		11-31	15-27	6.1-7.3	0	0
		31-45	10-25	6.1-7.3	0	0
		45-60	10-20	7.4-8.4	3-15	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
P15B:						
Primghar	10	0-21	25-35	6.1-7.3	0	0
		21-42	15-30	6.1-7.3	0	0
		42-60	10-20	7.4-8.4	1-10	0
Annieville	5	0-11	20-41	6.1-7.3	0	0
		11-52	15-41	6.1-7.3	0	0
		52-57	5.0-10	6.6-7.8	0-5	0
		57-80	10-18	7.4-8.4	10-20	0
Sac	5	0-11	20-41	6.1-7.3	0	0
		11-28	15-41	6.1-7.3	0	0
		28-33	10-18	6.1-7.3	0	0
		33-60	10-18	7.4-8.4	10-20	0
P20B:						
Judson	80	0-36	20-30	6.1-7.3	0	0
		36-56	15-35	6.1-7.3	0	0
		56-60	10-30	6.6-7.8	0-10	0
Primghar	10	0-21	25-35	6.1-7.3	0	0
		21-42	15-30	6.1-7.3	0	0
		42-60	10-20	7.4-8.4	1-10	0
Galva	5	0-11	20-32	6.1-7.3	0	0
		11-31	15-27	6.1-7.3	0	0
		31-45	10-25	6.1-7.3	0	0
		45-60	10-20	7.4-8.4	3-15	0
Whitewood, overwash	5	0-48	19-30	6.1-7.3	0	0
		48-70	15-25	7.4-8.4	1-10	0
		70-80	15-25	7.4-8.4	1-5	0
P21A:						
Marcus	80	0-17	25-45	6.1-7.3	0	0
		17-44	15-45	6.1-7.3	0	0
		44-57	10-41	7.9-8.4	10-20	0
		57-60	10-36	7.9-8.4	10-20	0
Whitewood, frequently flooded	10	0-25	19-30	6.1-7.3	0	0
		25-43	15-25	6.6-7.8	0	0
		43-60	15-25	7.4-8.4	1-10	0
Primghar	5	0-21	25-35	6.1-7.3	0	0
		21-42	15-30	6.1-7.3	0	0
		42-60	10-20	7.4-8.4	1-10	0
Spicer	5	0-17	25-40	7.4-8.4	5-30	0
		17-35	10-35	7.4-8.4	5-30	0
		35-60	10-30	7.4-8.4	5-30	0
P27A:						
Primghar	80	0-21	25-35	6.1-7.3	0	0
		21-42	15-30	6.1-7.3	0	0
		42-60	10-20	7.4-8.4	1-10	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
P27A:						
Galva----------	8	0-11	20-32	6.1-7.3	0	0
		11-31	15-27	6.1-7.3	0	0
		31-45	10-25	6.1-7.3	0	0
		45-60	10-20	7.4-8.4	3-15	0
Marcus----------	8	0-17	25-45	6.1-7.3	0	0
		17-44	15-45	6.1-7.3	0	0
		44-57	10-41	7.9-8.4	10-20	0
		57-60	10-36	7.9-8.4	10-20	0
Judson----------	4	0-22	19-30	6.1-7.3	0	0
		22-35	14-22	6.1-7.3	0	0
		35-60	10-22	6.1-7.3	0	0
P28A:						
Ransom----------	80	0-16	25-35	6.6-7.3	0	0
		16-33	15-30	6.6-7.3	0	0
		33-80	10-18	7.4-8.4	10-20	0
Rushmore----------	8	0-18	25-35	6.6-7.3	0	0
		18-24	15-35	6.6-7.3	0	0
		24-32	15-30	7.3-7.8	0	0
		32-80	10-18	7.4-8.4	10-20	0
Sac----------	8	0-11	20-41	6.1-7.3	0	0
		11-28	15-41	6.1-7.3	0	0
		28-33	10-18	6.1-7.3	0	0
		33-60	10-18	7.4-8.4	10-20	0
Primghar----------	4	0-21	25-35	6.1-7.3	0	0
		21-42	15-30	6.1-7.3	0	0
		42-60	10-20	7.4-8.4	1-10	0
P29A:						
Rushmore----------	80	0-18	25-35	6.6-7.3	0	0
		18-24	15-35	6.6-7.3	0	0
		24-32	15-30	7.4-7.8	1-10	0
		32-80	10-18	7.4-8.4	10-20	0
Ransom----------	10	0-16	25-35	6.6-7.3	0	0
		16-33	15-30	6.6-7.3	0	0
		33-80	10-18	7.4-8.4	10-20	0
Whitewood, frequently flooded----------	10	0-25	19-30	6.1-7.3	0	0
		25-43	15-25	6.6-7.8	0	0
		43-60	15-25	7.4-8.4	1-10	0
P30B:						
Sac----------	80	0-11	20-41	6.1-7.3	0	0
		11-28	15-41	6.1-7.3	0	0
		28-33	10-18	6.1-7.3	0	0
		33-60	10-18	7.4-8.4	10-20	0
Annieville----------	10	0-11	20-41	6.1-7.3	0	0
		11-52	15-41	6.1-7.3	0	0
		52-57	5.0-10	6.6-7.8	0-5	0
		57-80	10-18	7.4-8.4	10-20	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
P30B:						
Primghar----------	5	0-21	25-35	6.1-7.3	0	0
		21-42	15-30	6.1-7.3	0	0
		42-60	10-20	7.4-8.4	1-10	0
Ransom----------	5	0-16	25-35	6.6-7.3	0	0
		16-33	15-30	6.6-7.3	0	0
		33-80	10-18	7.4-8.4	10-20	0
P31A:						
Spicer----------	85	0-17	25-40	7.4-8.4	5-30	0
		17-35	10-35	7.4-8.4	5-30	0
		35-60	10-30	7.4-8.4	5-30	0
Marcus----------	10	0-17	25-45	6.1-7.3	0	0
		17-44	15-45	6.1-7.3	0	0
		44-57	10-41	7.9-8.4	10-20	0
		57-60	10-36	7.9-8.4	10-20	0
Whitewood----------	5	0-25	19-30	6.1-7.3	0	0
		25-43	15-25	6.6-7.8	0	0
		43-60	15-25	7.4-8.4	1-10	0
P33A:						
Spillco, occasionally flooded----------	85	0-10	20-25	6.6-7.3	0	0
		10-22	20-25	6.6-8.4	0-30	0
		22-60	12-25	6.6-8.4	0-30	0
Spillco, frequently flooded----------	10	0-15	20-25	6.6-7.3	0	0
		15-60	12-25	6.6-8.4	0-30	0
Comfrey, occasionally flooded----------	5	0-26	20-30	6.6-7.3	0	0
		26-35	12-25	6.6-7.3	0	0
		35-60	12-25	6.6-8.4	0-5	0
P36A:						
Talcot, occasionally flooded----------	85	0-22	21-30	7.4-8.4	5-30	0
		22-33	15-25	7.4-8.4	5-30	0
		33-60	1.0-3.0	7.4-8.4	5-30	0
Biscay, occasionally flooded----------	10	0-16	20-35	6.1-7.3	0	0
		16-21	12-25	6.6-7.3	0	0
		21-31	12-25	6.6-7.3	0	0
		31-60	1.0-5.0	7.4-8.4	5-30	0
Cylinder, occasionally flooded	5	0-18	11-25	6.1-7.3	0	0
		18-28	11-15	6.1-7.3	0	0
		28-39	1.0-6.0	7.4-8.4	0	0
		39-60	1.0-6.0	7.4-8.4	1-5	0
P37D:						
Talmo----------	90	0-9	2.0-10	6.1-8.4	0-1	0
		9-12	1.0-5.0	7.4-8.4	1-5	0
		12-60	0.0-3.0	7.4-8.4	1-10	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
P37D:						
Kanaranzi----------	5	0-7	15-30	6.1-7.3	0	0
		7-20	10-25	6.1-7.3	0	0
		20-80	0.0-5.0	6.1-8.4	0-15	0
Thurman----------	5	0-10	5.0-15	6.1-6.5	0	0
		10-20	3.0-10	6.1-7.3	0	0
		20-60	0.0-5.0	6.1-7.8	0-5	0
P38B:						
Thurman----------	90	0-13	5.0-15	6.1-6.5	0	0
		13-18	3.0-10	6.1-7.3	0	0
		18-60	0.0-5.0	6.1-7.8	0-5	0
Henkin----------	10	0-5	15-26	6.1-7.3	0	0
		5-21	12-23	6.1-7.3	0	0
		21-48	3.0-5.0	7.4-8.4	5-15	0
		48-60	3.0-5.0	7.4-8.4	3-15	0
P38C:						
Thurman----------	90	0-10	5.0-15	6.1-6.5	0	0
		10-20	3.0-10	6.1-7.3	0	0
		20-60	0.0-5.0	6.1-7.8	0-5	0
Henkin----------	10	0-5	15-26	6.1-7.3	0	0
		5-21	12-23	6.1-7.3	0	0
		21-48	3.0-5.0	7.4-8.4	5-15	0
		48-60	3.0-5.0	7.4-8.4	3-15	0
P43A:						
Wilmonton----------	85	0-15	19-30	6.1-7.3	0	0
		15-20	15-22	6.1-7.3	0	0
		20-25	10-18	6.1-7.3	0	0
		25-55	10-18	7.4-8.4	10-20	0
		55-80	10-18	7.4-8.4	10-20	0
Everly----------	5	0-10	20-33	6.1-7.3	0	0
		10-18	15-20	6.1-7.3	0	0
		18-80	10-18	7.4-8.4	10-20	0
Ransom----------	5	0-16	25-35	6.6-7.3	0	0
		16-33	15-30	6.6-7.3	0	0
		33-80	10-18	7.4-8.4	10-20	0
Rushmore----------	5	0-18	25-35	6.6-7.3	0	0
		18-24	15-35	6.6-7.3	0	0
		24-32	15-30	7.4-7.8	1-10	0
		32-80	10-18	7.4-8.4	10-20	0
P45E:						
Moneta----------	85	0-9	10-25	7.4-8.4	0-10	0
		9-13	10-18	7.4-8.4	1-10	0
		13-53	10-18	7.4-8.4	10-20	0
		53-80	10-18	7.4-8.4	10-20	0
Judson----------	10	0-36	20-30	6.1-7.3	0	0
		36-56	15-35	6.1-7.3	0	0
		56-60	10-30	6.6-7.8	0-10	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
P45E:						
Soils that are moderately deep to carbonates----------	5	0-9	10-20	6.7-7.3	0	0
		9-20	10-18	7.4-8.4	1-10	0
		20-53	10-18	7.4-8.4	10-20	0
		53-80	10-18	7.4-8.4	10-20	0
P48A:						
Allendorf----------	85	0-14	20-32	6.1-7.3	0	0
		14-34	15-27	6.1-7.3	0	0
		34-60	0.0-5.0	6.1-8.4	0-15	0
Kanaranzi----------	5	0-7	15-30	6.1-7.3	0	0
		7-20	10-25	6.1-7.3	0	0
		20-80	0.0-5.0	6.1-8.4	0-15	0
Moderately well drained soils-------	5	0-13	20-32	6.1-7.3	0	0
		13-34	15-27	6.1-7.3	0	0
		34-60	0.0-5.0	6.1-8.4	0-15	0
Sac----------	5	0-11	20-41	6.1-7.3	0	0
		11-28	15-41	6.1-7.3	0	0
		28-33	10-18	6.1-7.3	0	0
		33-60	10-18	7.4-8.4	10-20	0
P48B:						
Allendorf----------	85	0-13	20-32	6.1-7.3	0	0
		13-34	15-27	6.1-7.3	0	0
		34-60	0.0-5.0	6.1-8.4	0-15	0
Kanaranzi----------	5	0-7	15-30	6.1-7.3	0	0
		7-20	10-25	6.1-7.3	0	0
		20-80	0.0-5.0	6.1-8.4	0-15	0
Moderately well drained soils-------	5	0-13	20-32	6.1-7.3	0	0
		13-34	15-27	6.1-7.3	0	0
		34-60	0.0-5.0	6.1-8.4	0-15	0
Sac----------	5	0-11	20-41	6.1-7.3	0	0
		11-28	15-41	6.1-7.3	0	0
		28-33	10-18	6.1-7.3	0	0
		33-60	10-18	7.4-8.4	10-20	0
P49A:						
Comfrey, frequently flooded----------	85	0-40	20-30	6.6-7.3	0	0
		40-60	12-25	6.6-8.4	0-5	0
Comfrey, occasionally flooded----------	5	0-26	20-30	6.6-7.3	0	0
		26-35	12-25	6.6-7.3	0	0
		35-60	12-25	6.6-8.4	0-5	0
Havelock, frequently flooded----------	5	0-32	24-33	7.4-8.4	5-30	0
		32-60	12-27	7.4-8.4	5-30	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
P49A:						
Spillco, occasionally flooded----------	5	0-10	20-25	6.6-7.3	0	0
		10-22	20-25	6.6-8.4	0-30	0
		22-60	10-25	6.6-8.4	0-30	0
P50B:						
Everly----------	60	0-15	20-33	6.1-7.3	0	0
		15-26	15-20	6.1-7.3	0	0
		26-44	10-18	6.1-7.3	0	0
		44-80	10-18	7.4-8.4	10-20	0
Kanaranzi----------	25	0-10	15-30	6.1-7.3	0	0
		10-16	10-25	6.1-7.3	0	0
		16-80	0.0-5.0	6.1-8.4	0-15	0
Wilmonton----------	10	0-15	19-30	6.1-7.3	0	0
		15-20	15-22	6.1-7.3	0	0
		20-25	10-18	6.1-7.3	0	0
		25-55	10-18	7.4-8.4	10-20	0
		55-80	10-18	7.4-8.4	10-20	0
Ransom----------	5	0-16	25-35	6.6-7.3	0	0
		16-33	15-30	6.6-7.3	0	0
		33-80	10-18	7.4-8.4	10-20	0
P51C2:						
Everly, moderately eroded----------	40	0-8	20-33	6.1-7.3	0	0
		8-26	15-20	6.1-7.3	0	0
		26-80	10-18	7.4-8.4	10-20	0
Moneta, moderately eroded----------	20	0-8	10-25	7.4-8.4	0-10	0
		8-38	10-18	7.4-8.4	10-20	0
		38-80	10-18	7.4-8.4	10-20	0
Talmo, moderately eroded----------	20	0-6	2.0-10	6.1-8.4	0-1	0
		6-60	0.0-3.0	7.4-8.4	1-10	0
Everly----------	10	0-10	20-33	6.1-7.3	0	0
		10-18	15-20	6.1-7.3	0	0
		18-80	10-18	7.4-8.4	10-20	0
Kanaranzi----------	5	0-7	15-30	6.1-7.3	0	0
		7-20	10-25	6.1-7.3	0	0
		20-80	0.0-5.0	6.1-8.4	0-15	0
Wilmonton----------	5	0-15	19-30	6.1-7.3	0	0
		15-20	15-22	6.1-7.3	0	0
		20-25	10-18	6.1-7.3	0	0
		25-55	10-18	7.4-8.4	10-20	0
		55-80	10-18	7.4-8.4	10-20	0
P52D2:						
Moneta, moderately eroded----------	40	0-7	10-25	7.4-8.4	0-10	0
		7-30	10-18	7.4-8.4	10-20	0
		30-80	10-18	7.4-8.4	10-20	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
P52D2:						
Everly, moderately eroded----------	20	0-8	20-33	6.1-7.3	0	0
		8-16	15-20	6.1-7.3	0	0
		16-38	10-18	6.7-7.3	0	0
		38-80	10-18	7.4-8.4	10-20	0
Talmo, moderately eroded----------	20	0-8	2.0-10	6.1-8.4	0-1	0
		8-60	0.0-3.0	7.4-8.4	1-10	0
Everly----------	10	0-10	25-33	6.1-7.3	0	0
		10-18	15-20	6.1-7.3	0	0
		18-80	10-18	7.4-8.4	10-20	0
Kanaranzi----------	5	0-7	15-30	6.1-7.3	0	0
		7-20	10-25	6.1-7.3	0	0
		20-80	0.0-5.0	6.1-8.4	0-15	0
Wilmonton----------	5	0-15	19-30	6.1-7.3	0	0
		15-20	15-22	6.1-7.3	0	0
		20-25	10-18	6.1-7.3	0	0
		25-55	10-18	7.4-8.4	10-20	0
		55-80	10-18	7.4-8.4	10-20	0
P53C2:						
Everly, moderately eroded----------	55	0-10	20-33	6.1-7.3	0	0
		10-20	15-20	6.1-7.3	0	0
		20-80	10-18	7.4-8.4	10-20	0
Moneta, moderately eroded----------	25	0-7	10-25	7.4-8.4	0-10	0
		7-33	10-18	7.4-8.4	10-20	0
		33-80	10-18	7.4-8.4	10-20	0
Everly----------	10	0-10	20-33	6.1-7.3	0	0
		10-18	15-20	6.1-7.3	0	0
		18-80	10-18	7.4-8.4	10-20	0
Wilmonton----------	10	0-15	19-30	6.1-7.3	0	0
		15-20	15-22	6.1-7.3	0	0
		20-25	10-18	6.1-7.3	0	0
		25-55	10-18	7.4-8.4	10-20	0
		55-80	10-18	7.4-8.4	10-20	0
P54D2:						
Moneta, moderately eroded----------	45	0-9	10-18	7.4-8.4	0-10	0
		9-13	10-18	7.4-8.4	1-10	0
		13-53	10-18	7.4-8.4	10-20	0
		53-80	10-18	7.4-8.4	10-20	0
Everly, moderately eroded----------	40	0-10	25-33	6.1-7.3	0	0
		10-15	15-20	6.1-7.3	0	0
		15-44	10-18	6.7-7.3	0	0
		44-80	10-18	7.4-8.4	10-20	0

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
P54D2:						
Everly----------	10	0-10	25-33	6.1-7.3	0	0
		10-18	15-20	6.1-7.3	0	0
		18-80	10-18	7.4-8.4	10-20	0
Wilmonton----------	5	0-15	19-25	6.1-7.3	0	0
		15-20	17-22	6.1-7.3	0	0
		20-25	10-18	6.1-7.3	0	0
		25-55	10-18	7.4-8.4	10-20	0
		55-80	10-18	7.4-8.4	10-20	0
P55A:						
Kato----------	90	0-21	20-35	6.1-7.3	0	0
		21-31	15-35	6.1-7.3	0	0
		31-35	3.0-10	6.1-7.3	0	0
		35-60	1.0-5.0	7.4-8.4	5-30	0
Somewhat poorly drained soils-------	10	0-21	20-35	6.1-7.3	0	0
		21-31	15-35	6.1-7.3	0	0
		31-35	3.0-10	6.1-7.3	0	0
		35-60	1.0-5.0	7.4-8.4	5-30	0
P56A:						
Kanaranzi----------	80	0-7	15-30	6.1-7.3	0	0
		7-20	10-25	6.1-7.3	0	0
		20-80	0.0-5.0	6.1-8.4	0-15	0
Allendorf----------	10	0-14	20-32	6.1-7.3	0	0
		14-34	10-27	6.1-7.3	0	0
		34-60	0.0-5.0	6.1-8.4	0-15	0
Moderately well drained soils-------	10	0-7	15-30	6.1-7.3	0	0
		7-20	10-25	6.1-7.3	0	0
		20-80	0.0-5.0	6.1-8.4	0-15	0
P56B:						
Kanaranzi----------	80	0-7	15-30	6.1-7.3	0	0
		7-20	10-25	6.1-7.3	0	0
		20-80	0.0-5.0	6.1-8.4	0-15	0
Allendorf----------	14	0-13	20-32	6.1-7.3	0	0
		13-34	10-27	6.1-7.3	0	0
		34-60	0.0-5.0	6.1-8.4	0-15	0
Talmo----------	6	0-7	2.0-10	6.1-8.4	0-1	0
		7-10	1.0-5.0	7.4-8.4	1-5	0
		10-60	0.0-3.0	7.4-8.4	1-10	0
U3B.						
Udorthents (cut and fill land)						
U7.						
Udorthents, shallow, sanitary landfill						

Table 18.--Chemical Properties of the Soils--Continued

Map symbol and component name	Pct. of map unit	Depth	Cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum
		In	meq/100 g	pH	Pct	Pct
U15A:						
Havelock, frequently flooded----------	80	0-32	24-33	7.4-8.4	5-30	0
		32-60	12-27	7.4-8.4	5-30	0
Havelock, occasionally flooded	10	0-32	24-33	7.4-8.4	5-30	0
		32-60	12-27	7.4-8.4	5-30	0
Calco, frequently flooded----------	5	0-36	25-41	7.4-8.4	5-30	0
		36-60	18-41	7.4-8.4	5-30	0
Spillco, frequently flooded----------	5	0-15	20-25	6.6-7.3	0	0
		15-60	12-25	6.6-8.4	0-30	0
U24A:						
Havelock, occasionally flooded	80	0-32	24-33	7.4-8.4	5-30	0
		32-60	12-27	7.4-8.4	5-30	0
Havelock, frequently flooded----------	10	0-32	24-33	7.4-8.4	5-30	0
		32-60	12-27	7.4-8.4	5-30	0
Spillco, occasionally flooded----------	5	0-10	20-25	6.6-7.3	0	0
		10-22	20-25	6.6-8.4	0-30	0
		22-60	12-25	6.6-8.4	0-30	0
Comfrey, occasionally flooded----------	3	0-26	20-30	6.6-7.3	0	0
		26-35	12-25	6.6-7.3	0	0
		35-60	12-25	6.6-8.4	0-5	0
Calco, occasionally flooded----------	2	0-36	25-41	7.4-8.4	5-30	0
		36-44	18-41	7.4-8.4	5-30	0
		44-60	15-41	7.4-8.4	5-30	0
W. Water						

Table 19.--Soil Moisture, Flooding, and Ponding

(Depths are in feet. The values given for top depth, bottom depth, and ponding depth are representative values. See text for further explanation of terms used in this table)

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GP Pits, gravel-Udipsamments complex

Pits, gravel (80 percent of the map unit) (not applicable)

Udipsamments (20 percent of the map unit) (not applicable)

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L5A Delft, overwash-Delft complex, 1 to 4 percent slopes

Delft, overwash (45 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
February	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
March	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
June	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	6.7					
July	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
August	moist	0.0	4.5	none	---	none	---	---
	wet	4.5	6.7					
September	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L5A (continued)

Delft (35 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Delft, frequently flooded (7 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	frequent	very brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	frequent	very brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	frequent	very brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L5A (continued)

Terril (6 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
December	moist	0.0	5.2	none	---	none	---	---
	wet	5.2	6.7					

Glencoe, depressional (4 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L5A (continued)

Poorly drained soils (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

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L6A Biscay loam, 0 to 2 percent slopes

Biscay (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
February	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L6A (continued)

Biscay, depressional (8 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.1	none	---	none	---	---
	wet	1.1	6.7					
February	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
March	wet	0.0	6.7	none	---	frequent	long	0.5
April	wet	0.0	6.7	none	---	frequent	long	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
June	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	6.7					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
August	moist	0.0	1.8	none	---	none	---	---
	wet	1.8	6.7					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
November	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	6.7					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					

Mayer (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
February	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L6A (continued)

Cylinder (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
March	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
April	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.3	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					

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L78A Canisteo clay loam, 0 to 2 percent slopes

Canisteo (65 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L78A (continued)

Crippin (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

Glencoe, depressional (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L78A (continued)

Canisteo, depressional (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Harps (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L78A (continued)

Webster (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

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L79B Clarion loam, 2 to 5 percent slopes

Clarion (70 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L79B (continued)

Clarion, moderately eroded (15 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Nicollet (8 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L79B (continued)

Ocheyedan (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Webster (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

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Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L83A Webster clay loam, 0 to 2 percent slopes

Webster (65 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Glencoe, depressional (14 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L83A (continued)

Canisteo (8 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Nicollet (8 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L83A (continued)

Poorly drained soils (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

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L85A Nicollet clay loam, 1 to 3 percent slopes

Nicollet (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L85A (continued)

Clarion (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Webster (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L88A Lura silty clay, depressional, 0 to 1 percent slopes

Lura, depressional (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.0					
March	wet	0.0	6.0	none	---	frequent	long	0.5
April	wet	0.0	6.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.0					
June	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.0					
November	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.0					
December	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	6.0					

Brownton (7 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
March	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					
July	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
August	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
September	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
November	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L88A (continued)

Depressional soils that have an organic surface layer (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
March	wet	0.0	6.7	none	---	frequent	long	0.5
April	wet	0.0	6.7	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					

Prinsburg (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L96B Estherville-Hawick complex, 2 to 6 percent slopes

Estherville (55 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Hawick (35 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L96B (continued)

Tomall (8 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					
February	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					
March	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.8	none	---	none	---	---
	wet	3.8	6.7					
June	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
July	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					
August	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
September	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
October	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					
November	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
December	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					

Biscay (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
February	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.0	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L97C Hawick-Estherville complex, 6 to 12 percent slopes

Hawick (60 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Estherville (30 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L97C (continued)

Tomall (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					
February	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					
March	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.8	none	---	none	---	---
	wet	3.8	6.7					
June	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
July	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					
August	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
September	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
October	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					
November	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
December	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					

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L98A Crippin-Nicollet complex, 1 to 3 percent slopes

Crippin (50 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L98A (continued)

Nicollet (40 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

Canisteo (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L98A (continued)

Clarion (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

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L102C2 Omsrud-Storden complex, 6 to 12 percent slopes, moderately eroded

Omsrud, moderately eroded (45 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Storden, moderately eroded (24 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L102C2 (continued)

Omsrud (14 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Terril (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
December	moist	0.0	5.2	none	---	none	---	---
	wet	5.2	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L102C2 (continued)

Delft (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Crooksford (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	5.0					
May	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
June	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
July	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	5.0					
October	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L102D2 Omsrud-Storden complex, 12 to 18 percent slopes, moderately eroded

Omsrud, moderately eroded (45 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Storden, moderately eroded (20 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Omsrud (14 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L102D2 (continued)

Ridgeton (9 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Delft (6 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L102D2 (continued)

Terril (6 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
December	moist	0.0	5.2	none	---	none	---	---
	wet	5.2	6.7					

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L107A Canisteo-Glencoe, depressional, complex, 0 to 2 percent slopes

Canisteo (50 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L107A (continued)

Glencoe, depressional (35 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Harps (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L107A (continued)

Canisteo, depressional (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Crippin (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L111A Nicollet silty clay loam, 1 to 3 percent slopes

Nicollet (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Okabena (14 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L111A (continued)

Clarion (4 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
December	moist	0.0	6.7	none	---	none	---	---

Webster (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L112A Webster silty clay loam, 0 to 2 percent slopes

Webster (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Chetomba (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L112A (continued)

Glencoe, depressional (6 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Canisteo (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L112A (continued)

Nicollet (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

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L126A Coland silty clay loam, 0 to 2 percent slopes, occasionally flooded

Coland, occasionally flooded (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	occasional	very brief	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L126A (continued)

Minneopa, occasionally flooded (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
February	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
March	moist	0.0	2.8	occasional	very brief	none	---	---
	wet	2.8	5.0					
April	moist	0.0	2.5	occasional	very brief	none	---	---
	wet	2.5	5.0					
May	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	5.0					
June	moist	0.0	3.0	occasional	very brief	none	---	---
	wet	3.0	5.0					
July	moist	0.0	3.6	occasional	very brief	none	---	---
	wet	3.6	5.0					
August	moist	0.0	3.9	occasional	very brief	none	---	---
	wet	3.9	5.0					
September	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
October	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					

Havelock, occasionally flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	occasional	very brief	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L126A (continued)

Spillville, occasionally flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	occasional	very brief	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	occasional	very brief	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	occasional	very brief	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	occasional	very brief	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	occasional	very brief	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	occasional	very brief	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

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L127A Coland silty clay loam, channeled, 0 to 2 percent slopes, frequently flooded

Coland, frequently flooded (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	frequent	long	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	frequent	long	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	occasional	brief	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	occasional	brief	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L127A (continued)

Minneopa, occasionally flooded (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
February	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
March	moist	0.0	2.8	occasional	very brief	none	---	---
	wet	2.8	5.0					
April	moist	0.0	2.5	occasional	very brief	none	---	---
	wet	2.5	5.0					
May	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	5.0					
June	moist	0.0	3.0	occasional	very brief	none	---	---
	wet	3.0	5.0					
July	moist	0.0	3.6	occasional	very brief	none	---	---
	wet	3.6	5.0					
August	moist	0.0	3.9	occasional	very brief	none	---	---
	wet	3.9	5.0					
September	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
October	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					

Havelock, frequently flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	frequent	long	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	frequent	long	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	occasional	brief	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	occasional	brief	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L127A (continued)

Spillville, occasionally flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	occasional	very brief	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	occasional	very brief	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	occasional	very brief	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	occasional	very brief	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	occasional	very brief	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	occasional	very brief	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

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L129B Terril loam, 2 to 6 percent slopes

Terril (90 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
December	moist	0.0	5.2	none	---	none	---	---
	wet	5.2	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L129B (continued)

Clarion (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Delft (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L130A Okoboji mucky silty clay loam, depressional, 0 to 1 percent slopes

Okoboji mucky silty clay loam, depressional (75 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Okoboji silty clay loam, depressional (15 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.3	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	1.6	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
December	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L130A (continued)

Brownton (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
March	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					
July	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
August	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
September	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
November	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Spicer (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L133A Waldorf silty clay loam, 0 to 2 percent slopes

Waldorf (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
March	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					
July	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
August	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
September	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
November	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Marna (9 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
March	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					
July	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
August	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
September	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
November	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L133A (continued)

Chetomba (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Brownton (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
March	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					
July	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
August	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
September	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
November	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L133A (continued)

Lura, depressional (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.0					
March	wet	0.0	6.0	none	---	frequent	long	0.5
April	wet	0.0	6.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.0					
June	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.0					
November	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.0					
December	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	6.0					

Barbert (1 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
December	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L133A (continued)

Ocheda (1 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
February	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
March	moist	0.0	1.8	none	---	none	---	---
	wet	1.8	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
June	moist	0.0	1.8	none	---	none	---	---
	wet	1.8	6.7					
July	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
August	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
September	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
October	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					

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L134B Clarion-Crooksford complex, 1 to 5 percent slopes

Clarion (56 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L134B (continued)

Crooksford (15 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	5.0					
May	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
June	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
July	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	5.0					
October	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					

Clarion, moderately eroded (14 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L134B (continued)

Nicollet (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Swanlake (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L134B (continued)

Terril (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
December	moist	0.0	5.2	none	---	none	---	---
	wet	5.2	6.7					

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L135A Okabena silty clay loam, 1 to 3 percent slopes

Okabena (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L135A (continued)

Kingston (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

Nicollet (4 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L135A (continued)

Chetomba (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Ocheda (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
February	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
March	moist	0.0	1.8	none	---	none	---	---
	wet	1.8	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
June	moist	0.0	1.8	none	---	none	---	---
	wet	1.8	6.7					
July	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
August	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
September	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
October	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L135A (continued)

Waldorf (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
March	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					
July	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
August	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
September	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
November	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

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L136A Crooksford silty clay loam, 1 to 3 percent slopes

Crooksford (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	5.0					
May	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
June	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
July	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	5.0					
October	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L136A (continued)

Nicollet (8 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Clarion (7 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L136A (continued)

Okabena (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

Webster (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L137A Cylinder loam, 0 to 2 percent slopes

Cylinder (90 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
March	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
April	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.3	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					

Biscay (4 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
February	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.0	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L137A (continued)

Wadena (4 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Linder (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
March	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
April	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L138B Estherville loam, 1 to 6 percent slopes

Estherville (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Wadena (7 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Hawick (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L138B (continued)

Cylinder (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
March	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
April	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.3	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					

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L139A Wadena loam, 0 to 2 percent slopes

Wadena (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L139A (continued)

Estherville (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Kanaranzi (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L139A (continued)

Cylinder (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
March	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
April	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.3	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					

Dickinson (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L139B Wadena loam, 2 to 6 percent slopes

Wadena (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Estherville (7 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L139B (continued)

Cylinder (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
March	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
April	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.3	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					

Dickinson (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L139B (continued)

Biscay (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
February	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.0	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

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L140A Ocheda silty clay loam, 1 to 3 percent slopes

Ocheda (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
February	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
March	moist	0.0	1.8	none	---	none	---	---
	wet	1.8	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
June	moist	0.0	1.8	none	---	none	---	---
	wet	1.8	6.7					
July	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
August	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
September	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
October	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L140A (continued)

Guckeen (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
February	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	5.0					
March	moist	0.0	1.8	none	---	none	---	---
	wet	1.8	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
June	moist	0.0	1.8	none	---	none	---	---
	wet	1.8	5.0					
July	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
August	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	5.0					
September	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
October	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					

Collinwood (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
February	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	5.0					
March	moist	0.0	1.8	none	---	none	---	---
	wet	1.8	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
June	moist	0.0	1.8	none	---	none	---	---
	wet	1.8	5.0					
July	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
August	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	5.0					
September	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
October	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L140A (continued)

Nicollet (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Clarion (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L140A (continued)

Marna (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
March	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					
July	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
August	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
September	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					
November	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

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L141A Spillville loam, 0 to 2 percent slopes, occasionally flooded

Spillville, occasionally flooded (86 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	occasional	very brief	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	occasional	very brief	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	occasional	very brief	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	occasional	very brief	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	occasional	very brief	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	occasional	very brief	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L141A (continued)

Coland, occasionally flooded (8 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	occasional	very brief	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Hanlon, occasionally flooded (4 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
February	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
March	moist	0.0	2.8	rare	very brief	none	---	---
	wet	2.8	6.7					
April	moist	0.0	2.5	rare	very brief	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.6	rare	very brief	none	---	---
	wet	2.6	6.7					
June	moist	0.0	3.0	rare	very brief	none	---	---
	wet	3.0	6.7					
July	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
August	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
September	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
October	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L141A (continued)

Havelock, occasionally flooded (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	occasional	very brief	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

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L144A Chetomba silty clay loam, 0 to 2 percent slopes

Chetomba (75 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L144A (continued)

Waldorf (13 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
March	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
June	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	6.7					
July	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
August	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
September	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
November	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					

Webster (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L144A (continued)

Okoboji, depressional (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.3	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	1.6	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
December	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					

Prinsburg (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L144A (continued)

Okabena (1 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

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L145A Canisteo silty clay loam, 0 to 2 percent slopes

Canisteo (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L145A (continued)

Glencoe, depressional (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Webster (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L145A (continued)

Prinsburg (4 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Crippin (1 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L146A Glencoe silty clay loam, depressional, 0 to 1 percent slopes

Glencoe, depressional (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Canisteo (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L146A (continued)

Harps (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

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L150A Prinsburg silty clay loam, 0 to 2 percent slopes

Prinsburg (75 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L150A (continued)

Chetomba (14 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Webster (4 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L150A (continued)

Canisteo (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Okabena (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L150A (continued)

Okoboji, depressional (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.3	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	1.6	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
December	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					

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L151A Glencoe mucky silty clay loam, ponded, 0 to 1 percent slopes

Glencoe, ponded (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	wet	0.0	5.0	none	---	frequent	very long	2.0
February	wet	0.0	5.0	none	---	frequent	very long	2.0
March	wet	0.0	5.0	none	---	frequent	very long	3.0
April	wet	0.0	5.0	none	---	frequent	very long	3.0
May	wet	0.0	5.0	none	---	frequent	very long	3.0
June	wet	0.0	5.0	none	---	frequent	very long	2.5
July	wet	0.0	5.0	none	---	frequent	very long	1.0
August	wet	0.0	5.0	none	---	frequent	very long	0.5
September	wet	0.0	5.0	none	---	frequent	very long	1.0
October	wet	0.0	5.0	none	---	frequent	very long	2.0
November	wet	0.0	5.0	none	---	frequent	very long	2.5
December	wet	0.0	5.0	none	---	frequent	very long	2.0

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L151A (continued)

Okoboji, ponded (14 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	wet	0.0	5.0	none	---	frequent	very long	2.0
February	wet	0.0	5.0	none	---	frequent	very long	2.0
March	wet	0.0	5.0	none	---	frequent	very long	3.0
April	wet	0.0	5.0	none	---	frequent	very long	3.0
May	wet	0.0	5.0	none	---	frequent	very long	3.0
June	wet	0.0	5.0	none	---	frequent	very long	2.5
July	wet	0.0	5.0	none	---	frequent	very long	1.0
August	wet	0.0	5.0	none	---	frequent	very long	0.5
September	wet	0.0	5.0	none	---	frequent	very long	1.0
October	wet	0.0	5.0	none	---	frequent	very long	2.0
November	wet	0.0	5.0	none	---	frequent	very long	2.5
December	wet	0.0	5.0	none	---	frequent	very long	2.0

Klossner, ponded (6 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	wet	0.0	6.7	none	---	frequent	very long	2.0
February	wet	0.0	6.7	none	---	frequent	very long	2.0
March	wet	0.0	6.7	none	---	frequent	very long	3.0
April	wet	0.0	6.7	none	---	frequent	very long	3.0
May	wet	0.0	6.7	none	---	frequent	very long	3.0
June	wet	0.0	6.7	none	---	frequent	very long	2.5
July	wet	0.0	6.7	none	---	frequent	very long	1.0
August	wet	0.0	6.7	none	---	frequent	very long	0.5
September	wet	0.0	6.7	none	---	frequent	very long	1.0
October	wet	0.0	6.7	none	---	frequent	very long	2.0
November	wet	0.0	6.7	none	---	frequent	very long	2.5
December	wet	0.0	6.7	none	---	frequent	very long	2.0

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L152B Lowlein-Round Lake complex, 1 to 6 percent slopes

Lowlein (60 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
February	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
March	moist	0.0	2.8	none	---	none	---	---
	wet	2.8	5.0					
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	5.0					
May	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
June	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
July	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
August	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
September	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
October	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					

Round Lake (20 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.8	none	---	none	---	---
February	moist	0.0	4.8	none	---	none	---	---
March	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.8	none	---	none	---	---
	wet	3.8	6.7					
June	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
July	moist	0.0	4.8	none	---	none	---	---
August	moist	0.0	4.9	none	---	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
October	moist	0.0	4.8	none	---	none	---	---
November	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
December	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L152B (continued)

Nicollet (12 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

Farrar (6 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L152B (continued)

Webster (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

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L153A Essexville sandy loam, 0 to 2 percent slopes

Essexville (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L153A (continued)

Canisteo (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Glencoe, depressional (4 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L153A (continued)

Belleville (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
February	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
September	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Very poorly drained soils in depressions (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L153A (continued)

Somewhat poorly drained soils (1 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
March	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
April	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.3	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					

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L154E Belview-Ridgeton complex, 15 to 45 percent slopes

Belview (60 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L154E (continued)

Ridgeton (22 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Omsrud (14 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L154E (continued)

Delft (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Terril (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
December	moist	0.0	5.2	none	---	none	---	---
	wet	5.2	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L155A Okoboji mucky silty clay loam, ponded, 0 to 1 percent slopes

Okoboji, ponded (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	wet	0.0	5.0	none	---	frequent	very long	2.0
February	wet	0.0	5.0	none	---	frequent	very long	2.0
March	wet	0.0	5.0	none	---	frequent	very long	3.0
April	wet	0.0	5.0	none	---	frequent	very long	3.0
May	wet	0.0	5.0	none	---	frequent	very long	3.0
June	wet	0.0	5.0	none	---	frequent	very long	2.5
July	wet	0.0	5.0	none	---	frequent	very long	1.0
August	wet	0.0	5.0	none	---	frequent	very long	0.5
September	wet	0.0	5.0	none	---	frequent	very long	1.0
October	wet	0.0	5.0	none	---	frequent	very long	2.0
November	wet	0.0	5.0	none	---	frequent	very long	2.5
December	wet	0.0	5.0	none	---	frequent	very long	2.0

Glencoe, ponded (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	wet	0.0	5.0	none	---	frequent	very long	2.0
February	wet	0.0	5.0	none	---	frequent	very long	2.0
March	wet	0.0	5.0	none	---	frequent	very long	3.0
April	wet	0.0	5.0	none	---	frequent	very long	3.0
May	wet	0.0	5.0	none	---	frequent	very long	3.0
June	wet	0.0	5.0	none	---	frequent	very long	2.5
July	wet	0.0	5.0	none	---	frequent	very long	1.0
August	wet	0.0	5.0	none	---	frequent	very long	0.5
September	wet	0.0	5.0	none	---	frequent	very long	1.0
October	wet	0.0	5.0	none	---	frequent	very long	2.0
November	wet	0.0	5.0	none	---	frequent	very long	2.5
December	wet	0.0	5.0	none	---	frequent	very long	2.0

Blue Earth, ponded (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	wet	0.0	5.0	none	---	frequent	very long	2.0
February	wet	0.0	5.0	none	---	frequent	very long	2.0
March	wet	0.0	5.0	none	---	frequent	very long	3.0
April	wet	0.0	5.0	none	---	frequent	very long	3.0
May	wet	0.0	5.0	none	---	frequent	very long	3.0
June	wet	0.0	5.0	none	---	frequent	very long	2.5
July	wet	0.0	5.0	none	---	frequent	very long	1.0
August	wet	0.0	5.0	none	---	frequent	very long	0.5
September	wet	0.0	5.0	none	---	frequent	very long	1.0
October	wet	0.0	5.0	none	---	frequent	very long	2.0
November	wet	0.0	5.0	none	---	frequent	very long	2.5
December	wet	0.0	5.0	none	---	frequent	very long	2.0

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L155A (continued)

Klossner, ponded (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	wet	0.0	6.7	none	---	frequent	very long	2.0
February	wet	0.0	6.7	none	---	frequent	very long	2.0
March	wet	0.0	6.7	none	---	frequent	very long	3.0
April	wet	0.0	6.7	none	---	frequent	very long	3.0
May	wet	0.0	6.7	none	---	frequent	very long	3.0
June	wet	0.0	6.7	none	---	frequent	very long	2.5
July	wet	0.0	6.7	none	---	frequent	very long	1.0
August	wet	0.0	6.7	none	---	frequent	very long	0.5
September	wet	0.0	6.7	none	---	frequent	very long	1.0
October	wet	0.0	6.7	none	---	frequent	very long	2.0
November	wet	0.0	6.7	none	---	frequent	very long	2.5
December	wet	0.0	6.7	none	---	frequent	very long	2.0

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L156C2 Omsrud-Storden-Pilot Grove complex, 6 to 12 percent slopes, moderately eroded

Omsrud, moderately eroded (44 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Storden, moderately eroded (24 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L156C2 (continued)

Pilot Grove (20 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Hawick (8 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L156C2 (continued)

Delft (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Terril (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
December	moist	0.0	5.2	none	---	none	---	---
	wet	5.2	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L156D2 Omsrud-Storden-Pilot Grove complex, 12 to 18 percent slopes, moderately eroded

Omsrud, moderately eroded (50 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Storden, moderately eroded (25 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Pilot Grove (15 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L156D2 (continued)

Hawick (4 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Delft (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L156D2 (continued)

Ridgeton (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Terril (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
December	moist	0.0	5.2	none	---	none	---	---
	wet	5.2	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L157A Lowlein loam, 0 to 2 percent slopes

Lowlein (78 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
February	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
March	moist	0.0	2.8	none	---	none	---	---
	wet	2.8	5.0					
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	5.0					
May	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
June	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
July	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
August	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
September	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
October	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					

Nicollet (14 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L157A (continued)

Round Lake (4 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.8	none	---	none	---	---
February	moist	0.0	4.8	none	---	none	---	---
March	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.8	none	---	none	---	---
	wet	3.8	6.7					
June	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
July	moist	0.0	4.8	none	---	none	---	---
August	moist	0.0	4.9	none	---	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
October	moist	0.0	4.8	none	---	none	---	---
November	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
December	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					

Farrar (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L157A (continued)

Webster (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

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L158B Round Lake sandy loam, 1 to 6 percent slopes

Round Lake (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.8	none	---	none	---	---
February	moist	0.0	4.8	none	---	none	---	---
March	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.8	none	---	none	---	---
	wet	3.8	6.7					
June	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
July	moist	0.0	4.8	none	---	none	---	---
August	moist	0.0	4.9	none	---	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
October	moist	0.0	4.8	none	---	none	---	---
November	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
December	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L158B (continued)

Lowlein (13 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
February	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
March	moist	0.0	2.8	none	---	none	---	---
	wet	2.8	5.0					
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	5.0					
May	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
June	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
July	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
August	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
September	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
October	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					

Ocheyedan (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L158B (continued)

Estherville (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Webster (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L159A Knoke mucky silty clay loam, depressional, 0 to 1 percent slopes

Knoke, depressional (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	occasional	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
December	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					

Okoboji, depressional (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.3	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	1.6	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
December	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L159A (continued)

Essexville (4 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Canisteo (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L159A (continued)

Canisteo, depressional (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					

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L160B Dickinson sandy loam, loamy substratum, 1 to 6 percent slopes

Dickinson, loamy substratum (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L160B (continued)

Farrar (8 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Lowlein (7 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
February	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
March	moist	0.0	2.8	none	---	none	---	---
	wet	2.8	5.0					
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	5.0					
May	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
June	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
July	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
August	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
September	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
October	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L161C Estherville-Pilot Grove complex, 6 to 12 percent slopes

Estherville (38 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Pilot Grove (38 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Well drained soils (15 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L161C (continued)

Hawick (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Delft (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L161C (continued)

Terril (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
December	moist	0.0	5.2	none	---	none	---	---
	wet	5.2	6.7					

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L162B Clarion-Round Lake complex, 2 to 6 percent slopes

Clarion (45 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L162B (continued)

Round Lake (30 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.8	none	---	none	---	---
February	moist	0.0	4.8	none	---	none	---	---
March	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.8	none	---	none	---	---
	wet	3.8	6.7					
June	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
July	moist	0.0	4.8	none	---	none	---	---
August	moist	0.0	4.9	none	---	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
October	moist	0.0	4.8	none	---	none	---	---
November	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
December	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					

Estherville (8 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L162B (continued)

Lowlein (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
February	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
March	moist	0.0	2.8	none	---	none	---	---
	wet	2.8	5.0					
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	5.0					
May	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
June	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
July	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
August	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
September	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
October	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					

Nicollet (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L162B (continued)

Swanlake (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
May	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	5.0					
December	moist	0.0	5.0	none	---	none	---	---

Webster (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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L163A Okoboji silty clay loam, depressional, 0 to 1 percent slopes

Okoboji, depressional (92 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.3	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	1.6	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	frequent	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
December	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					

Canisteo (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L163A (continued)

Harpster (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

Knoke, depressional (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
February	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
March	wet	0.0	5.0	none	---	frequent	long	0.5
April	wet	0.0	5.0	none	---	occasional	brief	1.0
May	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
June	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
July	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	5.0					
September	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	5.0					
October	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
November	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
December	moist	0.0	0.8	none	---	none	---	---
	wet	0.8	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L163A (continued)

Prinsburg (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

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L170B Estherville-Round Lake complex, 2 to 6 percent slopes

Estherville (50 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	5.0	none	---	none	---	---
February	moist	0.0	5.0	none	---	none	---	---
March	moist	0.0	5.0	none	---	none	---	---
April	moist	0.0	5.0	none	---	none	---	---
May	moist	0.0	5.0	none	---	none	---	---
June	moist	0.0	5.0	none	---	none	---	---
July	moist	0.0	5.0	none	---	none	---	---
August	moist	0.0	5.0	none	---	none	---	---
September	moist	0.0	5.0	none	---	none	---	---
October	moist	0.0	5.0	none	---	none	---	---
November	moist	0.0	5.0	none	---	none	---	---
December	moist	0.0	5.0	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L170B (continued)

Round Lake (45 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.8	none	---	none	---	---
February	moist	0.0	4.8	none	---	none	---	---
March	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
April	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
May	moist	0.0	3.8	none	---	none	---	---
	wet	3.8	6.7					
June	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
July	moist	0.0	4.8	none	---	none	---	---
August	moist	0.0	4.9	none	---	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
October	moist	0.0	4.8	none	---	none	---	---
November	moist	0.0	4.3	none	---	none	---	---
	wet	4.3	6.7					
December	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					

Lowlein (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
February	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
March	moist	0.0	2.8	none	---	none	---	---
	wet	2.8	5.0					
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	5.0					
May	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
June	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
July	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
August	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	5.0					
September	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	5.0					
October	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	5.0					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

L170B (continued)

Poorly drained soils (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	5.0					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	5.0					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	5.0					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	5.0					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	5.0					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	5.0					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	5.0					

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M-W Water, miscellaneous

Water, miscellaneous (100 percent of the map unit) (not applicable)

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P1B Annieville silty clay loam, 2 to 5 percent slopes

Annieville (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	4.0	none	---	none	---	---
	wet	4.0	6.7					
May	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
June	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P1B (continued)

McCreath (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Galva (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P1B (continued)

Primghar (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

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P2A McCreath silty clay loam, 1 to 3 percent slopes

McCreath (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P2A (continued)

Gillett Grove (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Annieville (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	4.0	none	---	none	---	---
	wet	4.0	6.7					
May	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
June	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P2A (continued)

Primghar (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

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P3A Biscay silty clay loam, 0 to 2 percent slopes, occasionally flooded

Biscay, occasionally flooded (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
February	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	1.6	occasional	very brief	none	---	---
	wet	1.6	6.7					
August	moist	0.0	2.0	occasional	very brief	none	---	---
	wet	2.0	6.7					
September	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P3A (continued)

Cylinder, occasionally flooded (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
March	moist	0.0	1.6	occasional	brief	none	---	---
	wet	1.6	6.7					
April	moist	0.0	1.3	occasional	brief	none	---	---
	wet	1.3	6.7					
May	moist	0.0	1.6	occasional	brief	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	occasional	brief	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.0	occasional	very brief	none	---	---
	wet	3.0	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					

Talcot, occasionally flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
February	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	1.6	occasional	very brief	none	---	---
	wet	1.6	6.7					
August	moist	0.0	2.0	occasional	very brief	none	---	---
	wet	2.0	6.7					
September	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P7A Comfrey clay loam, 0 to 2 percent slopes, occasionally flooded

Comfrey, occasionally flooded (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	very brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Colo, occasionally flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	very brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P7A (continued)

Havelock, frequently flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	frequent	long	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	frequent	long	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Havelock, occasionally flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	very brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P7A (continued)

Spillco, occasionally flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	3.0	occasional	brief	none	---	---
	wet	3.0	6.7					
April	moist	0.0	2.5	occasional	brief	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.6	occasional	brief	none	---	---
	wet	2.6	6.7					
June	moist	0.0	3.0	occasional	brief	none	---	---
	wet	3.0	6.7					
July	moist	0.0	4.9	occasional	very brief	none	---	---
	wet	4.9	6.7					
August	moist	0.0	6.7	occasional	very brief	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
October	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					

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P9A Gillett Grove silty clay loam, 0 to 2 percent slopes

Gillett Grove (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P9A (continued)

McCreath (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Afton, frequently flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	frequent	very brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	frequent	very brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	frequent	very brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P12B Everly silty clay loam, 2 to 6 percent slopes

Everly (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	4.0	none	---	none	---	---
	wet	4.0	6.7					
May	moist	0.0	4.4	none	---	none	---	---
	wet	4.4	6.7					
June	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Sac (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.8	none	---	none	---	---
	wet	2.8	6.7					
June	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P12B (continued)

Ransom (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Wilmonton (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P12C2 Everly silty clay loam, 6 to 12 percent slopes, moderately eroded

Everly, moderately eroded (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	4.0	none	---	none	---	---
	wet	4.0	6.7					
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Everly (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	4.0	none	---	none	---	---
	wet	4.0	6.7					
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Moneta (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P12C2 (continued)

Wilmonton (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

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P15B Galva silty clay loam, 2 to 5 percent slopes

Galva (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P15B (continued)

Primghar (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Annieville (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	4.0	none	---	none	---	---
	wet	4.0	6.7					
May	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
June	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P15B (continued)

Sac (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.8	none	---	none	---	---
	wet	2.8	6.7					
June	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

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P20B Judson silt loam, 3 to 8 percent slopes

Judson (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P20B (continued)

Primghar (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Galva (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P20B (continued)

Whitewood, overwash (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

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P21A Marcus silty clay loam, 0 to 2 percent slopes

Marcus (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P21A (continued)

Whitewood, frequently flooded (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	frequent	very brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	frequent	very brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	frequent	very brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Primghar (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P21A (continued)

Spicer (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

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P27A Primghar silty clay loam, 1 to 3 percent slopes

Primghar (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P27A (continued)

Galva (8 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.6	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Marcus (8 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P27A (continued)

Judson (4 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
April	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
May	moist	0.0	4.1	none	---	none	---	---
	wet	4.1	6.7					
June	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
November	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
December	moist	0.0	5.2	none	---	none	---	---
	wet	5.2	6.7					

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P28A Ransom silty clay loam, 1 to 3 percent slopes

Ransom (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P28A (continued)

Rushmore (8 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Sac (8 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.8	none	---	none	---	---
	wet	2.8	6.7					
June	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P28A (continued)

Primghar (4 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

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P29A Rushmore silty clay loam, 0 to 2 percent slopes

Rushmore (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P29A (continued)

Ransom (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Whitewood, frequently flooded (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	frequent	very brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	frequent	very brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	frequent	very brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P30B Sac silty clay loam, 2 to 5 percent slopes

Sac (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.8	none	---	none	---	---
	wet	2.8	6.7					
June	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Annieville (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	4.0	none	---	none	---	---
	wet	4.0	6.7					
May	moist	0.0	4.6	none	---	none	---	---
	wet	4.6	6.7					
June	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P30B (continued)

Primghar (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Ransom (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P31A Spicer silty clay loam, 0 to 2 percent slopes

Spicer (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Marcus (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P31A (continued)

Whitewood (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

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P33A Spillco silt loam, 0 to 2 percent slopes, occasionally flooded

Spillco, occasionally flooded (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	3.0	occasional	brief	none	---	---
	wet	3.0	6.7					
April	moist	0.0	2.5	occasional	brief	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.6	occasional	brief	none	---	---
	wet	2.6	6.7					
June	moist	0.0	3.0	occasional	brief	none	---	---
	wet	3.0	6.7					
July	moist	0.0	4.9	occasional	very brief	none	---	---
	wet	4.9	6.7					
August	moist	0.0	6.7	occasional	very brief	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
October	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P33A (continued)

Spillco, frequently flooded (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	3.0	frequent	long	none	---	---
	wet	3.0	6.7					
April	moist	0.0	2.5	frequent	long	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.6	frequent	long	none	---	---
	wet	2.6	6.7					
June	moist	0.0	3.0	frequent	long	none	---	---
	wet	3.0	6.7					
July	moist	0.0	4.9	occasional	brief	none	---	---
	wet	4.9	6.7					
August	moist	0.0	6.7	occasional	brief	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
October	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					

Comfrey, occasionally flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	very brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P36A Talcot silty clay loam, 0 to 2 percent slopes, occasionally flooded

Talcot, occasionally flooded (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
February	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	1.6	occasional	very brief	none	---	---
	wet	1.6	6.7					
August	moist	0.0	2.0	occasional	very brief	none	---	---
	wet	2.0	6.7					
September	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Biscay, occasionally flooded (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
February	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	1.6	occasional	very brief	none	---	---
	wet	1.6	6.7					
August	moist	0.0	2.0	occasional	very brief	none	---	---
	wet	2.0	6.7					
September	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P36A (continued)

Cylinder, occasionally flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
March	moist	0.0	1.6	occasional	brief	none	---	---
	wet	1.6	6.7					
April	moist	0.0	1.3	occasional	brief	none	---	---
	wet	1.3	6.7					
May	moist	0.0	1.6	occasional	brief	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	occasional	brief	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.0	occasional	very brief	none	---	---
	wet	3.0	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					

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P37D Talmo gravelly sandy loam, 6 to 35 percent slopes

Talmo (90 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P37D (continued)

Kanaranzi (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Thurman (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

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P38B Thurman sandy loam, 2 to 6 percent slopes

Thurman (90 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P38B (continued)

Henkin (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

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P38C Thurman sandy loam, 6 to 12 percent slopes

Thurman (90 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Henkin (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P43A Wilmonton silty clay loam, 1 to 3 percent slopes

Wilmonton (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Everly (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	4.0	none	---	none	---	---
	wet	4.0	6.7					
May	moist	0.0	4.4	none	---	none	---	---
	wet	4.4	6.7					
June	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P43A (continued)

Ransom (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Rushmore (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P45E Moneta clay loam, 15 to 45 percent slopes

Moneta (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Judson (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Soils that are moderately deep to carbonates (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P48A Allendorf silty clay loam, 0 to 2 percent slopes

Allendorf (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Kanaranzi (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P48A (continued)

Moderately well drained soils (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
June	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
July	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
October	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					

Sac (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.8	none	---	none	---	---
	wet	2.8	6.7					
June	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P48B Allendorf silty clay loam, 2 to 6 percent slopes

Allendorf (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Kanaranzi (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P48B (continued)

Moderately well drained soils (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
June	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
July	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
August	moist	0.0	6.7	none	---	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
October	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					

Sac (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.8	none	---	none	---	---
	wet	2.8	6.7					
June	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P49A Comfrey clay loam, 0 to 2 percent slopes, frequently flooded

Comfrey, frequently flooded (85 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	frequent	long	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	frequent	long	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Comfrey, occasionally flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	very brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P49A (continued)

Havelock, frequently flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	frequent	long	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	frequent	long	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Spillco, occasionally flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	3.0	occasional	brief	none	---	---
	wet	3.0	6.7					
April	moist	0.0	2.5	occasional	brief	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.6	occasional	brief	none	---	---
	wet	2.6	6.7					
June	moist	0.0	3.0	occasional	brief	none	---	---
	wet	3.0	6.7					
July	moist	0.0	4.9	occasional	very brief	none	---	---
	wet	4.9	6.7					
August	moist	0.0	6.7	occasional	very brief	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
October	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P50B Everly-Kanaranzi complex, 2 to 6 percent slopes

Everly (60 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	4.0	none	---	none	---	---
	wet	4.0	6.7					
May	moist	0.0	4.4	none	---	none	---	---
	wet	4.4	6.7					
June	moist	0.0	4.8	none	---	none	---	---
	wet	4.8	6.7					
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Kanaranzi (25 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P50B (continued)

Wilmonton (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Ransom (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P51C2 Everly-Moneta-Talmo complex, 6 to 12 percent slopes, moderately eroded

Everly, moderately eroded (40 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	4.0	none	---	none	---	---
	wet	4.0	6.7					
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Moneta, moderately eroded (20 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Talmo, moderately eroded (20 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P51C2 (continued)

Everly (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	4.0	none	---	none	---	---
	wet	4.0	6.7					
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Kanaranzi (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P51C2 (continued)

Wilmonton (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

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P52D2 Moneta-Everly-Talmo complex, 12 to 18 percent slopes, moderately eroded

Moneta, moderately eroded (40 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P52D2 (continued)

Everly, moderately eroded (20 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	4.0	none	---	none	---	---
	wet	4.0	6.7					
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Talmo, moderately eroded (20 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Everly (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	6.7					
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P52D2 (continued)

Kanaranzi (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Wilmonton (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P53C2 Everly-Moneta complex, 6 to 12 percent slopes, moderately eroded

Everly, moderately eroded (55 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	4.0	none	---	none	---	---
	wet	4.0	6.7					
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Moneta, moderately eroded (25 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Everly (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	4.0	none	---	none	---	---
	wet	4.0	6.7					
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P53C2 (continued)

Wilmonton (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

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P54D2 Moneta-Everly complex, 12 to 18 percent slopes, moderately eroded

Moneta, moderately eroded (45 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P54D2 (continued)

Everly, moderately eroded (40 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	6.7					
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Everly (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	6.7					
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P54D2 (continued)

Wilmonton (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
February	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
March	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
April	moist	0.0	1.5	none	---	none	---	---
	wet	1.5	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
August	moist	0.0	5.9	none	---	none	---	---
	wet	5.9	6.7					
September	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
October	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
November	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
December	moist	0.0	2.3	none	---	none	---	---
	wet	2.3	6.7					

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P55A Kato silty clay loam, 0 to 2 percent slopes

Kato (90 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
February	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
March	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	none	---	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	none	---	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
July	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
August	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
September	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
October	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P55A (continued)

Somewhat poorly drained soils (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
February	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
March	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
April	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					
May	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
June	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
July	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					
November	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
December	moist	0.0	2.0	none	---	none	---	---
	wet	2.0	6.7					

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P56A Kanaranzi silt loam, 0 to 2 percent slopes

Kanaranzi (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

P56A (continued)

Allendorf (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Moderately well drained soils (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
February	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
March	moist	0.0	2.8	none	---	none	---	---
	wet	2.8	6.7					
April	moist	0.0	2.5	none	---	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
June	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
July	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
August	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
September	moist	0.0	3.6	none	---	none	---	---
	wet	3.6	6.7					
October	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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P56B Kanaranzi silt loam, 2 to 6 percent slopes

Kanaranzi (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Allendorf (14 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Talmo (6 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	6.7	none	---	none	---	---
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	6.7	none	---	none	---	---
April	moist	0.0	6.7	none	---	none	---	---
May	moist	0.0	6.7	none	---	none	---	---
June	moist	0.0	6.7	none	---	none	---	---
July	moist	0.0	6.7	none	---	none	---	---
August	dry	0.0	0.7	none	---	none	---	---
	moist	0.7	6.7					
September	moist	0.0	6.7	none	---	none	---	---
October	moist	0.0	6.7	none	---	none	---	---
November	moist	0.0	6.7	none	---	none	---	---
December	moist	0.0	6.7	none	---	none	---	---

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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U3B Udorthents (cut and fill land), 0 to 6 percent slopes

Udorthents (cut and fill land) (100 percent of the map unit) (not applicable)

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U7 Udorthents, shallow (sanitary landfill)

Udorthents, shallow, sanitary landfill (100 percent of the map unit) (not applicable)

****

U15A Havelock clay loam, 0 to 2 percent slopes, frequently flooded

Havelock, frequently flooded (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	frequent	long	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	frequent	long	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

U15A (continued)

Havelock, occasionally flooded (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	very brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Calco, frequently flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	frequent	long	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	frequent	long	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

U15A (continued)

Spillco, frequently flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	3.0	frequent	long	none	---	---
	wet	3.0	6.7					
April	moist	0.0	2.5	frequent	long	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.6	frequent	long	none	---	---
	wet	2.6	6.7					
June	moist	0.0	3.0	frequent	long	none	---	---
	wet	3.0	6.7					
July	moist	0.0	4.9	occasional	brief	none	---	---
	wet	4.9	6.7					
August	moist	0.0	6.7	occasional	brief	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
October	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					

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U24A Havelock clay loam, 0 to 2 percent slopes, occasionally flooded

Havelock, occasionally flooded (80 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	very brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

U24A (continued)

Havelock, frequently flooded (10 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	frequent	long	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	frequent	long	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	frequent	long	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Spillco, occasionally flooded (5 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
February	moist	0.0	6.7	none	---	none	---	---
March	moist	0.0	3.0	occasional	brief	none	---	---
	wet	3.0	6.7					
April	moist	0.0	2.5	occasional	brief	none	---	---
	wet	2.5	6.7					
May	moist	0.0	2.6	occasional	brief	none	---	---
	wet	2.6	6.7					
June	moist	0.0	3.0	occasional	brief	none	---	---
	wet	3.0	6.7					
July	moist	0.0	4.9	occasional	very brief	none	---	---
	wet	4.9	6.7					
August	moist	0.0	6.7	occasional	very brief	none	---	---
September	moist	0.0	4.9	none	---	none	---	---
	wet	4.9	6.7					
October	moist	0.0	3.9	none	---	none	---	---
	wet	3.9	6.7					
November	moist	0.0	3.0	none	---	none	---	---
	wet	3.0	6.7					
December	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

U24A (continued)

Comfrey, occasionally flooded (3 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	very brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Calco, occasionally flooded (2 percent of the map unit)

Month	Moisture status	Top depth	Bottom depth	Flooding frequency	Flooding duration	Ponding frequency	Ponding duration	Ponding depth
January	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
February	moist	0.0	3.3	none	---	none	---	---
	wet	3.3	6.7					
March	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
April	moist	0.0	0.5	occasional	brief	none	---	---
	wet	0.5	6.7					
May	moist	0.0	0.7	occasional	brief	none	---	---
	wet	0.7	6.7					
June	moist	0.0	1.0	occasional	brief	none	---	---
	wet	1.0	6.7					
July	moist	0.0	2.6	occasional	very brief	none	---	---
	wet	2.6	6.7					
August	moist	0.0	3.3	occasional	very brief	none	---	---
	wet	3.3	6.7					
September	moist	0.0	2.6	none	---	none	---	---
	wet	2.6	6.7					
October	moist	0.0	1.6	none	---	none	---	---
	wet	1.6	6.7					
November	moist	0.0	1.0	none	---	none	---	---
	wet	1.0	6.7					
December	moist	0.0	1.3	none	---	none	---	---
	wet	1.3	6.7					

Table 19.--Soil Moisture, Flooding, and Ponding--Continued

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W Water

Water (100 percent of the map unit) (not applicable)

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Table 20.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
GP:						
Pits, gravel.						
Udipsamments.						
L5A:						
Delft, overwash	45	0	0	High	High	Low
Delft	35	0	0	High	High	Low
Delft, frequently flooded	7	0	0	High	High	Low
Terril	6	0	0	Moderate	Moderate	Low
Glencoe, depressional	4	0	0	High	High	Low
Poorly drained soils	3	0	0	High	High	Low
L6A:						
Biscay	85	0	0	High	High	Low
Biscay, depressional	8	0	0	High	High	Low
Mayer	5	0	0	High	High	Low
Cylinder	2	0	0	High	Moderate	Low
L78A:						
Canisteo	65	0	0	High	High	Low
Crippin	10	0	0	High	High	Low
Glencoe, depressional	10	0	0	High	High	Low
Canisteo, depressional	5	0	0	High	High	Low
Harps	5	0	0	High	High	Low
Webster	5	0	0	High	High	Low
L79B:						
Clarion	70	0	0	Moderate	Low	Low
Clarion, moderately eroded	15	0	0	Moderate	Low	Low
Nicollet	8	0	0	High	High	Low
Ocheyedan	5	0	0	Moderate	Low	Low
Webster	2	0	0	High	High	Low
L83A:						
Webster	65	0	0	High	High	Low
Glencoe, depressional	14	0	0	High	High	Low

Table 20.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
L83A:						
Canisteo	8	0	0	High	High	Low
Nicollet	8	0	0	High	High	Low
Poorly drained soils	5	0	0	High	High	Low
L85A:						
Nicollet	85	0	0	High	High	Low
Clarion	10	0	0	Moderate	Low	Low
Webster	5	0	0	High	High	Low
L88A:						
Lura, depressional	85	0	0	High	High	Low
Brownton	7	0	0	High	High	Low
Depressional soils that have an organic surface layer	5	2-4	25-32	High	High	Moderate
Prinsburg	3	0	0	High	High	Low
L96B:						
Estherville	55	0	0	Low	Low	Low
Hawick	35	0	0	Low	Low	Low
Biscay	2	0	0	High	Moderate	Low
Tomall	8	0	0	Moderate	High	Low
L97C:						
Hawick	60	0	0	Low	Low	Low
Estherville	30	0	0	Low	Low	Low
Tomall	10	0	0	Moderate	High	Low
L98A:						
Crippin	50	0	0	High	High	Low
Nicollet	40	0	0	High	High	Low
Canisteo	5	0	0	High	High	Low
Clarion	5	0	0	Moderate	Low	Low
L102C2:						
Omsrud, moderately eroded	45	0	0	Moderate	Low	Low
Storden, moderately eroded	24	0	0	Moderate	Low	Low
Omsrud	14	0	0	Moderate	Low	Low
Terril	10	0	0	Moderate	Moderate	Low

Table 20.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
L102C2:						
Delft	5	0	0	High	High	Low
Crooksford	2	0	0	High	Moderate	Low
L102D2:						
Omsrud, moderately eroded	45	0	0	Moderate	Low	Low
Storden, moderately eroded	20	0	0	Moderate	Low	Low
Omsrud	14	0	0	Moderate	Low	Low
Ridgeton	9	0	0	Moderate	Moderate	Low
Delft	6	0	0	High	High	Low
Terril	6	0	0	Moderate	Moderate	Low
L107A:						
Canisteo	50	0	0	High	High	Low
Glencoe, depressional	35	0	0	High	High	Low
Harps	10	0	0	High	High	Low
Canisteo, depressional	3	0	0	High	High	Low
Crippin	2	0	0	High	High	Low
L111A:						
Nicollet	80	0	0	High	High	Low
Okabena	14	0	0	High	High	Low
Clarion	4	0	0	Moderate	Low	Low
Webster	2	0	0	High	High	Low
L112A:						
Webster	80	0	0	High	High	Low
Chetomba	10	0	0	High	High	Low
Glencoe, depressional	6	0	0	High	High	Low
Canisteo	2	0	0	High	High	Low
Nicollet	2	0	0	High	High	Low
L126A:						
Coland, occasionally flooded	80	0	0	High	High	Low
Minneopa, occasionally flooded	10	0	0	Moderate	Low	Low
Havelock, occasionally flooded	5	0	0	High	High	Low
Spillville, occasionally flooded	5	0	0	Moderate	High	Moderate

Table 20.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
L127A:						
Coland, frequently flooded	80	0	0	High	High	Low
Minneopa, occasionally flooded	10	0	0	Moderate	Low	Low
Havelock, frequently flooded	5	0	0	High	High	Low
Spillville, occasionally flooded	5	0	0	Moderate	High	Moderate
L129B:						
Terril	90	0	0	Moderate	Moderate	Low
Clarion	5	0	0	Moderate	Low	Low
Delft	5	0	0	High	High	Low
L130A:						
Okoboji mucky silty clay loam, depressional	75	0	0	High	High	Low
Okoboji silty clay loam, depressional	15	0	0	High	High	Low
Brownton	5	0	0	High	High	Low
Spicer	5	0	0	High	High	Low
L133A:						
Waldorf	80	0	0	High	High	Low
Marna	9	0	0	High	High	Low
Chetomba	5	0	0	High	High	Low
Brownton	2	0	0	High	High	Low
Lura, depressional	2	0	0	High	High	Low
Barbert	1	0	0	High	High	Low
Ocheda	1	0	0	High	High	Low
L134B:						
Clarion	56	0	0	Moderate	Low	Low
Crooksford	15	0	0	High	Moderate	Low
Clarion, moderately eroded	14	0	0	Moderate	Low	Low
Nicollet	5	0	0	High	High	Low
Swanlake	5	0	0	Moderate	Low	Low
Terril	5	0	0	Moderate	Moderate	Low

Table 20.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
L135A:						
Okabena	85	0	0	High	High	Low
Kingston	5	0	0	High	High	Low
Nicollet	4	0	0	High	High	Low
Chetomba	2	0	0	High	High	Low
Ocheda	2	0	0	High	High	Low
Waldorf	2	0	0	High	High	Low
L136A:						
Crooksford	80	0	0	High	Moderate	Low
Nicollet	8	0	0	High	High	Low
Clarion	7	0	0	Moderate	Low	Low
Okabena	3	0	0	High	High	Low
Webster	2	0	0	High	High	Low
L137A:						
Cylinder	90	0	0	High	Moderate	Low
Biscay	4	0	0	High	Moderate	Low
Wadena	4	0	0	Low	Low	Low
Linder	2	0	0	High	Moderate	Low
L138B:						
Estherville	85	0	0	Low	Low	Low
Wadena	7	0	0	Low	Low	Low
Hawick	5	0	0	Low	Low	Low
Cylinder	3	0	0	High	Moderate	Low
L139A:						
Wadena	85	0	0	Low	Low	Low
Estherville	5	0	0	Low	Low	Low
Kanaranzi	5	0	0	Moderate	Low	Low
Cylinder	3	0	0	High	Moderate	Low
Dickinson	2	0	0	Moderate	Low	Moderate
L139B:						
Wadena	85	0	0	Low	Low	Low
Estherville	7	0	0	Low	Low	Low
Cylinder	3	0	0	High	Moderate	Low
Dickinson	3	0	0	Moderate	Low	Moderate
Biscay	2	0	0	High	Moderate	Low

Table 20.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
L140A:						
Ocheda	85	0	0	High	High	Low
Guckeen	5	0	0	High	High	Low
Collinwood	3	0	0	High	High	Low
Nicollet	3	0	0	High	High	Low
Clarion	2	0	0	Moderate	Low	Low
Marna	2	0	0	High	High	Low
L141A:						
Spillville, occasionally flooded	86	0	0	Moderate	High	Moderate
Coland, occasionally flooded	8	0	0	High	High	Low
Hanlon, occasionally flooded	4	0	0	Moderate	Moderate	Low
Havelock, occasionally flooded	2	0	0	High	High	Low
L144A:						
Chetomba	75	0	0	High	High	Low
Waldorf	13	0	0	High	High	Low
Webster	5	0	0	High	High	Low
Okoboji, depressional	3	0	0	High	High	Low
Prinsburg	3	0	0	High	High	Low
Okabena	1	0	0	High	High	Low
L145A:						
Canisteo	80	0	0	High	High	Low
Glencoe, depressional	10	0	0	High	High	Low
Webster	5	0	0	High	High	Low
Prinsburg	4	0	0	High	High	Low
Crippin	1	0	0	High	High	Low
L146A:						
Glencoe, depressional	80	0	0	High	High	Low
Canisteo	10	0	0	High	High	Low
Harps	10	0	0	High	High	Low
L150A:						
Prinsburg	75	0	0	High	High	Low
Chetomba	14	0	0	High	High	Low

Table 20.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
L150A:						
Webster	4	0	0	High	High	Low
Canisteo	3	0	0	High	High	Low
Okabena	2	0	0	High	High	Low
Okoboji, depressional	2	0	0	High	High	Low
L151A:						
Glencoe, ponded	80	0	0	High	High	Low
Okoboji, ponded	14	0	0	High	High	Low
Klossner, ponded	6	2-4	25-32	High	High	Moderate
L152B:						
Lowlein	60	0	0	Moderate	Moderate	Low
Round Lake	20	0	0	Low	Low	Low
Nicollet	12	0	0	High	High	Low
Farrar	6	0	0	Moderate	Moderate	Low
Webster	2	0	0	High	High	Low
L153A:						
Essexville	85	0	0	High	High	Low
Canisteo	5	0	0	High	High	Low
Glencoe, depressional	4	0	0	High	High	Low
Belleville	3	0	0	High	High	Low
Very poorly drained soils in depressions	2	0	0	High	High	Low
Somewhat poorly drained soils	1	0	0	Moderate	Low	Low
L154E:						
Belview	60	0	0	Moderate	Low	Low
Ridgeton	22	0	0	Moderate	Moderate	Low
Omsrud	14	0	0	Moderate	Low	Low
Delft	2	0	0	High	High	Low
Terril	2	0	0	Moderate	Moderate	Low
L155A:						
Okoboji, ponded	85	0	0	High	High	Low
Glencoe, ponded	10	0	0	High	High	Low
Blue Earth, ponded	3	0	0	High	High	Low
Klossner, ponded	2	2-4	25-32	High	High	Moderate

Table 20.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
L156C2:						
Omsrud, moderately eroded	44	0	0	Moderate	Low	Low
Storden, moderately eroded	24	0	0	Moderate	Low	Low
Pilot Grove	20	0	0	Low	Low	Low
Hawick	8	0	0	Low	Low	Low
Delft	2	0	0	High	High	Low
Terril	2	0	0	Moderate	Moderate	Low
L156D2:						
Omsrud, moderately eroded	50	0	0	Moderate	Low	Low
Storden, moderately eroded	25	0	0	Moderate	Low	Low
Pilot Grove	15	0	0	Low	Low	Low
Hawick	4	0	0	Low	Low	Low
Ridgeton	2	0	0	Moderate	Moderate	Low
Delft	2	0	0	High	High	Low
Terril	2	0	0	Moderate	Moderate	Low
L157A:						
Lowlein	78	0	0	Moderate	Moderate	Low
Nicollet	14	0	0	High	High	Low
Round Lake	4	0	0	Low	Low	Low
Webster	2	0	0	High	High	Low
Farrar	2	0	0	Moderate	Moderate	Low
L158B:						
Round Lake	80	0	0	Low	Low	Low
Lowlein	13	0	0	Moderate	Moderate	Low
Ocheyedan	3	0	0	Moderate	Low	Low
Estherville	2	0	0	Low	Low	Low
Webster	2	0	0	High	High	Low
L159A:						
Knoke, depressional	85	0	0	High	High	Low
Okoboji, depressional	5	0	0	High	High	Low
Essexville	4	0	0	High	High	Low

Table 20.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
L159A:						
Canisteo	3	0	0	High	High	Low
Canisteo, depressional	3	0	0	High	High	Low
L160B:						
Dickinson, loamy substratum	85	0	0	Moderate	Low	Moderate
Farrar	8	0	0	Moderate	Moderate	Low
Lowlein	7	0	0	Moderate	Moderate	Low
L161C:						
Estherville	38	0	0	Low	Low	Low
Pilot Grove	38	0	0	Low	Low	Low
Well drained soils	15	0	0	Moderate	Low	Low
Hawick	5	0	0	Low	Low	Low
Delft	2	0	0	High	High	Low
Terril	2	0	0	Moderate	Moderate	Low
L162B:						
Clarion	45	0	0	Moderate	Low	Low
Round Lake	30	0	0	Low	Low	Low
Estherville	8	0	0	Low	Low	Low
Lowlein	5	0	0	Moderate	Moderate	Low
Nicollet	5	0	0	High	High	Low
Swanlake	5	0	0	Moderate	Low	Low
Webster	2	0	0	High	High	Low
L163A:						
Okoboji, depressional	92	0	0	High	High	Low
Canisteo	2	0	0	High	High	Low
Harpster	2	0	0	High	High	Low
Knoke, depressional	2	0	0	High	High	Low
Prinsburg	2	0	0	High	High	Low
L170B:						
Estherville	50	0	0	Low	Low	Low
Round Lake	45	0	0	Low	Low	Low
Lowlein	3	0	0	Moderate	Moderate	Low
Poorly drained soils	2	0	0	High	High	Low

Table 20.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
M-W.						
Water, miscellaneous						
P1B:						
Annieville	80	0	0	High	Moderate	Low
McCreath	10	0	0	High	High	Low
Galva	5	0	0	High	Moderate	Low
Primghar	5	0	0	High	High	Low
P2A:						
McCreath	80	0	0	High	High	Low
Gillett Grove	10	0	0	High	High	Low
Annieville	5	0	0	High	Moderate	Low
Primghar	5	0	0	High	High	Low
P3A:						
Biscay, occasionally flooded	85	0	0	High	Moderate	Low
Cylinder, occasionally flooded	10	0	0	Moderate	Moderate	Low
Talcot, occasionally flooded	5	0	0	High	High	Low
P7A:						
Comfrey, occasionally flooded	80	0	0	High	High	Low
Colo, occasionally flooded	5	0	0	High	High	Low
Havelock, occasionally flooded	5	0	0	High	High	Low
Havelock, frequently flooded	5	0	0	High	High	Low
Spillco, occasionally flooded	5	0	0	Moderate	Moderate	Low
P9A:						
Gillett Grove	85	0	0	High	High	Low
McCreath	10	0	0	High	High	Low
Afton, frequently flooded	5	0	0	High	High	Low
P12B:						
Everly	80	0	0	Moderate	Moderate	Low
Sac	10	0	0	High	Moderate	Low
Ransom	5	0	0	High	High	Low
Wilmonton	5	0	0	Moderate	High	Low

Table 20.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
P12C2:						
Everly, moderately eroded	80	0	0	Moderate	Moderate	Low
Everly	10	0	0	Moderate	Moderate	Low
Moneta	5	0	0	Moderate	Moderate	Low
Wilmonton	5	0	0	Moderate	High	Low
P15B:						
Galva	80	0	0	High	Moderate	Low
Primghar	10	0	0	High	High	Low
Annieville	5	0	0	High	Moderate	Low
Sac	5	0	0	High	Moderate	Low
P20B:						
Judson	80	0	0	High	Moderate	Low
Primghar	10	0	0	High	High	Low
Galva	5	0	0	High	Moderate	Low
Whitewood, overwash	5	0	0	High	High	Low
P21A:						
Marcus	80	0	0	High	High	Low
Whitewood, frequently flooded	10	0	0	High	High	Low
Primghar	5	0	0	High	High	Low
Spicer	5	0	0	High	High	Low
P27A:						
Primghar	80	0	0	High	High	Low
Galva	8	0	0	High	Moderate	Low
Marcus	8	0	0	High	High	Low
Judson	4	0	0	High	Moderate	Low
P28A:						
Ransom	80	0	0	High	High	Low
Rushmore	8	0	0	High	High	Low
Sac	8	0	0	High	Moderate	Low
Primghar	4	0	0	High	High	Low
P29A:						
Rushmore	80	0	0	High	High	Low
Ransom	10	0	0	High	High	Low
Whitewood, frequently flooded	10	0	0	High	High	Low

Table 20.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
P30B:						
Sac	80	0	0	High	Moderate	Low
Annieville	10	0	0	High	Moderate	Low
Primghar	5	0	0	High	High	Low
Ransom	5	0	0	High	High	Low
P31A:						
Spicer	85	0	0	High	High	Low
Marcus	10	0	0	High	High	Low
Whitewood	5	0	0	High	High	Low
P33A:						
Spillco, occasionally flooded	85	0	0	Moderate	Moderate	Low
Spillco, frequently flooded	10	0	0	Moderate	Moderate	Low
Comfrey, occasionally flooded	5	0	0	High	High	Low
P36A:						
Talcot, occasionally flooded	85	0	0	High	High	Low
Biscay, occasionally flooded	10	0	0	High	Moderate	Low
Cylinder, occasionally flooded	5	0	0	Moderate	Moderate	Low
P37D:						
Talmo	90	0	0	Low	Low	Low
Kanaranzi	5	0	0	Moderate	Low	Low
Thurman	5	0	0	Low	Low	Moderate
P38B:						
Thurman	90	0	0	Low	Low	Low
Henkin	10	0	0	Moderate	Low	Low
P38C:						
Thurman	90	0	0	Low	Low	Moderate
Henkin	10	0	0	Moderate	Low	Low
P43A:						
Wilmonton	85	0	0	Moderate	High	Low
Everly	5	0	0	Moderate	Moderate	Low
Ransom	5	0	0	High	High	Low
Rushmore	5	0	0	High	High	Low

Table 20.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
P45E:						
Moneta	85	0	0	Moderate	Moderate	Low
Judson	10	0	0	High	Moderate	Low
Soils that are moderately deep to carbonates	5	0	0	Moderate	Moderate	Low
P48A:						
Allendorf	85	0	0	Moderate	Low	Low
Kanaranzi	5	0	0	Moderate	Low	Low
Moderately well drained soils	5	0	0	Moderate	Low	Low
Sac	5	0	0	High	Moderate	Low
P48B:						
Allendorf	85	0	0	Moderate	Low	Low
Kanaranzi	5	0	0	Moderate	Low	Low
Moderately well drained soils	5	0	0	Moderate	Low	Low
Sac	5	0	0	High	Moderate	Low
P49A:						
Comfrey, frequently flooded	85	0	0	High	High	Low
Comfrey, occasionally flooded	5	0	0	High	High	Low
Havelock, frequently flooded	5	0	0	High	High	Low
Spillco, occasionally flooded	5	0	0	Moderate	Moderate	Low
P50B:						
Everly	60	0	0	Moderate	Moderate	Low
Kanaranzi	25	0	0	Moderate	Low	Low
Wilmonton	10	0	0	Moderate	High	Low
Ransom	5	0	0	High	High	Low
P51C2:						
Everly, moderately eroded	40	0	0	Moderate	Moderate	Low
Moneta, moderately eroded	20	0	0	Moderate	Moderate	Low
Talmo, moderately eroded	20	0	0	Low	Low	Low

Table 20.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
P51C2:						
Everly	10	0	0	Moderate	Moderate	Low
Kanaranzi	5	0	0	Moderate	Low	Low
Wilmonton	5	0	0	Moderate	High	Low
P52D2:						
Moneta, moderately eroded	40	0	0	Moderate	Moderate	Low
Everly, moderately eroded	20	0	0	Moderate	Moderate	Low
Talmo, moderately eroded	20	0	0	Low	Low	Low
Everly	10	0	0	Moderate	Moderate	Low
Kanaranzi	5	0	0	Moderate	Low	Low
Wilmonton	5	0	0	Moderate	High	Low
P53C2:						
Everly, moderately eroded	55	0	0	Moderate	Moderate	Low
Moneta, moderately eroded	25	0	0	Moderate	Moderate	Low
Everly	10	0	0	Moderate	Moderate	Low
Wilmonton	10	0	0	Moderate	High	Low
P54D2:						
Moneta, moderately eroded	45	0	0	Moderate	Moderate	Low
Everly, moderately eroded	40	0	0	Moderate	Moderate	Low
Everly	10	0	0	Moderate	Moderate	Low
Wilmonton	5	0	0	Moderate	High	Low
P55A:						
Kato	90	0	0	High	Moderate	Low
Somewhat poorly drained soils	10	0	0	High	Moderate	Low
P56A:						
Kanaranzi	80	0	0	Moderate	Low	Low
Allendorf	10	0	0	Moderate	Low	Low
Moderately well drained soils	10	0	0	Moderate	Low	Low
P56B:						
Kanaranzi	80	0	0	Moderate	Low	Low

Table 20.--Soil Features--Continued

Map symbol and component name	Pct. of map unit	Subsidence		Potential for frost action	Risk of corrosion	
		Initial	Total		Uncoated steel	Concrete
		In	In			
P56B:						
Allendorf----------	14	0	0	Moderate	Low	Low
Talmo----------	6	0	0	Low	Low	Low
U3B.						
Udorthents (cut and fill land)						
U7.						
Udorthents, shallow, sanitary landfill						
U15A:						
Havelock, frequently flooded----------	80	0	0	High	High	Low
Havelock, occasionally flooded----------	10	0	0	High	High	Low
Calco, frequently flooded----------	5	0	0	High	High	Low
Spillco, frequently flooded----------	5	0	0	Moderate	Moderate	Low
U24A:						
Havelock, occasionally flooded----------	80	0	0	High	High	Low
Havelock, frequently flooded----------	10	0	0	High	High	Low
Spillco, occasionally flooded----------	5	0	0	Moderate	Moderate	Low
Comfrey, occasionally flooded----------	3	0	0	High	High	Low
Calco, occasionally flooded----------	2	0	0	High	High	Low
W.						
Water						

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the "National Soil Survey Handbook" (available in local offices of the Natural Resources Conservation Service or on the Internet).

Ablation till. Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Beach deposits. Material, such as sand and gravel, that is generally laid down parallel to an active or relict shoreline of a postglacial or glacial lake.

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed; the adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.

Bog. Waterlogged, spongy ground, consisting primarily of mosses, containing acidic, decaying vegetation (such as sphagnum, sedges, and heaths) that develops into peat.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps. See Terracettes.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat). A type of limnic layer composed predominantly of fecal material derived from aquatic animals.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depression. Any relatively sunken part of the earth's surface; especially a low-lying area surrounded by higher ground. A closed depression has no natural outlet for surface drainage.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Drift. A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Earthy fill. See Mine spoil.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

Esker. A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

Fan remnant. A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

Herbaceous peat. An accumulation of organic material, decomposed to some degree, that is predominantly the remains of sedges, reeds, cattails, and other herbaceous plants.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a

well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Ice-walled lake plain. A relict surface marking the floor of an extinct lake basin that was formed on solid ground and surrounded by stagnant ice in a stable or unstable superglacial environment on stagnation moraines. As the ice melted, the lake plain became perched above the adjacent landscape. The lake plain is well sorted, generally fine textured, stratified deposits.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. See Redoximorphic features.

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. A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

Karst (topography). A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

Lakeshore. A narrow strip of land in contact with or bordering a lake; especially the beach of a lake.

Landslide. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Material transported and deposited by wind and consisting dominantly of silt-sized particles.

Low strength. The soil is not strong enough to support loads.

Low-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.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

Masses. See Redoximorphic features.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. A kind of map unit that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky peat. Unconsolidated soil material consisting primarily of organic matter that is in an intermediate stage of decomposition such that a significant part of the material can be recognized and a significant part of the material cannot be recognized.

Mudstone. A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. See Redoximorphic features.

Nose slope (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash. Stratified and sorted sediments (chiefly sand and gravel) removed or "washed out" from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

Outwash plain. An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as

"permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is

neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturated hydraulic conductivity (K_{sat}). See Permeability.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

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. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single 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 potential decrease in surface elevation as a result of the drainage of wet soils that have organic layers or semifluid mineral layers. Subsidence, as a result of drainage, is attributed to (1) shrinkage from drying, (2) consolidation because of the loss of ground-water buoyancy, (3) compaction from tillage or manipulation, (4) wind erosion, (5) burning, and (6) biochemical oxidation.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Swale. A slight depression in the midst of generally level land. A shallow depression in an undulating ground moraine caused by uneven glacial deposition.

Terminal moraine. An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till. Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.

Till plain. An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of

water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Woody peat. An accumulation of organic material that is predominantly composed of trees, shrubs, and other woody plants.

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